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THE
CANADIAN JOURNAL
OF
MEDICINE AND SURGERY

A JOURNAL PUBLISHED MONTHLY IN THE INTEREST OF
MEDICINE AND SURGERY

J. J. CASSIDY, M.D., EDITOR.

VOL. IX.
JANUARY TO JUNE, 1901

306414
20.11.34

BUSINESS MANAGER
W. A. YOUNG, M.D., L.R.G.P.LOND.
145 COLLEGE ST., TORONTO, CAN.

1901

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VOL. IX.

TORONTO, JANUARY, 1901.

NO. 1.

Original Contributions.

GASOLINE IN SURGERY.

BY BRUCE L. RIORDAN, M.D., C.M. (McG.).

Surgeon Toronto General Hospital ; Surgeon Grace General Hospital.

I WOULD invite your attention to a new surgical detergent, viz., Commercial Gasoline.

Detergents, abstergents, or ablutents, as you know, are medicines or substances which have the property of cleansing wounds. Gasoline is not only useful to cleanse fresh wounds, recent wounds or old wounds or ulcers, but it is most useful in cleansing the field of operation before a surgical wound is made in the integument of the body.

Gasoline is a product of the distillation of crude petroleum. It is one of the lighter oils which pass over before benzine and commercial coal oil. It is sterile in itself, and has been used in the arts for years as a cleansing agent—in cleaning gloves, leather and clothing. It is very volatile and rapidly evaporates, and is cheap—20 cents per gallon.

As the result of some experiments conducted by Dr. Goldie, of Toronto, he sends in the following report :

“I have carried out in part the experiments in regard to the detergent and antiseptic properties of commercial gasoline. Weighed scrapings from the same arm from areas roughly two square inches were plated out, after washing with soap and water for five minutes, and after scrubbing with gasoline for two minutes, also without any preparation.

Unsterilized skin gave	173 colonies.
Soap and water scrubbing	20 “
Gasoline, two minutes' scrubbing ..	16 “

"Scrapings from skin, scrubbed with soap and water, then dressed with 1 to 60 carbolic acid over night, gave for same weight of scrapings 22 colonies.

"Gasoline poured on skin without rubbing gave 84 colonies; repeated with scrubbing with cotton wipe, gasoline gave only 7 colonies.

"*Staphylococcus pyogenes aureus* smeared on the skin as a film remain alive at the end of two minutes exposed to gasoline. I shall continue the experiments more fully and let you have report at early date."

This report corroborates my claim that gasoline is a valuable detergent. It may yet be found to be antiseptic.

Microscopic appearance of the skin after scrubbing with soap and water and after wiping off the skin with gasoline, showed that the cleansing effect went much deeper and cleaned our hair follicles, sebaceous glands and sweat ducts much more perfectly than scrubbing with soap and water could do, and prepared the skin so that antiseptics applied would have much greater effect than if applied to skin unprepared, the pores being open. I have been using gasoline for the past four years in cleansing the field of operation, in cleansing traumatic wounds, and in the subsequent dressings of all classes of wounds—not using water or other lotions or solutions. I was led to use gasoline, first, for the purpose of cleansing from injured parts what railway employees call black oil. We all know how black and grimy are the hands of railway employees engaged in shop work and about locomotives. While working in their ordinary occupation an accident occurs—fingers are crushed, for instance. The injured person comes under the surgeon's care. The surgeon's first duty is to see that the injured parts and the surrounding tissues are thoroughly and surgically deterged or made surgically clean. Soap and warm water with a brush has been the usual means employed; also ether, alcohol, etc. I found the process to be slow, painful, and not always thorough, as we understand surgical cleanliness, and the idea of using gasoline as a detergent readily suggested itself.

I find that it does not irritate fresh wounds or granulating surfaces any more than water does. It is best applied by taking an ordinary "wipe," made of cotton batting or sterilized gauze, saturating the cotton in the gasoline and wiping the parts which it is desired to cleanse. The gasoline immediately evaporates and leaves the surface dry, clean, and perfectly free from grease. This will be found an advantage where sectional strapping by adhesive plaster is to be used, as the plaster adheres much more firmly when the skin is free from any oily substance.

My results, as far as early healing and absence of infection are concerned, have been most satisfactory, and include the treat-

ment of all classes of wounds, and I cannot too strongly recommend to the members of this Association gasoline as a detergent for primary cleansing of wounds, and also in all subsequent dressings, as it does away with the trouble and risk of aqueous solutions.

Gasoline applied to the surface of the body rapidly evaporates and gives a pleasant, cooling sensation.

In subsequent dressings of external wounds, you may find the dressings adherent about line of incision or suture. Squeeze a few drops of gasoline on the adherent dressing and you will find that it can be readily detached. If you want to remove sutures from the wound, and they are masked by iodoform and exudations from the wound, gasoline on a wipe, gently applied, will clear your field. It dissolves iodoform and the exudation from the wound and then immediately evaporates, leaving a clean, dry surface. You can readily find your sutures and remove them.

The use of gasoline, not only as a detergent for primary cleansing of traumatic wounds, but also in all subsequent changes of dressings, has been to me original, but I have no doubt that some other members of this Association have been using this substance. But if any of you have only used gasoline as the primary detergent in traumatic wounds, let me urge upon you to use this material for preparing the field for operation, in suitable cases, and the cleansing of wounds in all subsequent dressings.

One word of caution in using gasoline: The vapor from gasoline is highly inflammable. It should not be used in quantity near an exposed light. If it gets into cavities such as the ears or eyes, it is painful as chloroform or alcohol would be.

It is unsuitable only in wounds where it can not evaporate rapidly, and so cannot be used in the abdominal or other cavity of the body, but is useful in cleansing the sutured wound in the abdominal parietes, immediately after operation, and in all subsequent dressings.

I would, before closing, just repeat:

1. That gasoline does not irritate fresh wounds or granulating surfaces.

2. It evaporates immediately, and leaves a clean, dry surface.

3. It is sterile.

4. It renders the part to which it has been properly applied surgically clean. I often use a pledget of cotton soaked in gasoline to wipe instruments or needles, if I have any doubt of their being sterile; and now it remains for me to thank you, gentlemen, for your very kind indulgence.

ATHEOTOSIS, OR MOBILE SPASM.

BY ALEXANDER MCPHEDRAN, M.B.

Professor of Medicine and Clinical Medicine, University of Toronto, etc.

THE following case presents the condition of athetosis, or mobile spasm, in an extreme degree. She came under my care at the Hospital for Sick Children, in September last, and the notes of her case have been kindly made for me by Dr. H. S. Hutchison, my house physician.



FIG. 1.

M.J., aged 3½. Her birth was difficult and lengthy, but no instruments were used. At four months of age she had severe diarrhoea, with convulsion after convulsion; life was despaired of. After this she could not suck her fingers as formerly, owing to not being able to raise either hand to her mouth.



FIG. 2.

Present Condition.—The child is very small and rather poorly nourished. The head is well formed and fontanelles closed. The mental condition is poor: she makes no attempt to speak, and pays little heed to what is going on. Her attention can be attracted, but cannot be held. The pupils are unequal, the right one being the larger. They react to light and distance. She is difficult to feed, as she has little control of the muscles of mastication and deglutition, so that the food has to be placed well back in the mouth. The teeth are poor, the central incisors being short, broad, and with projecting sharp corners. The posterior muscles of the neck are weak, so that the head is maintained in an upright position only if placed a little behind the middle line: if it comes to or forward of that line, it drops suddenly on to the chest. (Fig. 1.) The chest somewhat pigeon shaped; breathing irregular, breath being held in at intervals. The heart is normal. In the arms the muscles are flaccid, but fairly nourished; there are frequent uncontrollable movements of the arms. These movements are most marked in the hands and fingers. (Figs. 2 and 3.) There is very little power in hands. She has



FIG. 3.

more power in the legs than in the arms. Muscles are fairly well developed and generally in a spastic condition, but are sometimes in a flaccid state. She can stand, but requires to be steadied. In walking she lacks the power of co-ordination. The legs participate in the athetoid movements to some extent, the toes chiefly, but to a less degree than the fingers. Knee-jerks are slightly exaggerated; there is no ankle-clonus. The athetoid movements are present sometimes during sleep. Sensation is considerably impaired. Urine and feces passed automatically. The muscles of the arms, back and legs react normally to induced current. Temperature is quite irregular, often rising to 101° F.

Remarks.—Athetosis, or mobile spasm, occurs in a variety of cerebral lesions, but only after a lapse of some months, or even a year or more from the time of the lesion. In this child's case there was, doubtless, injury of the brain at the birth, although no signs of it were observed until after the convulsions, when she was four months old. The movements are bilateral, as is usual in cases of birth palsy. The muscles of respiration appear to be affected also. The spasm does not cease completely in sleep. Her mental condition presents very little more than the vegetative aspect of life.

HYPEREXTENSION OF THE SPINE IN THE TREATMENT OF THE PARALYSIS OF POTT'S DISEASE.

BY H. P. H. GALLOWAY, M.D.,

Surgeon to the Toronto Orthopedic Hospital; Orthopedic Surgeon, Toronto Western Hospital;
Orthopedic Surgeon, Grace General Hospital; Member of the American
Orthopedic Association.

ALL surgeons who have seen many cases of spinal caries have observed that a considerable proportion of these cases are complicated by paraplegia. The paralysis usually comes on gradually, and as a rule is purely motor, sensation being unaffected. Exceptionally, however, there may be partial or complete anesthesia also. The degree of motor paralysis varies from slight diminution of the normal muscular vigor to complete loss of voluntary power. The reflexes are usually exaggerated, there may be severe muscular spasm, and in bad cases there is loss of control over the sphincters of the rectum and bladder. It is generally accepted that the most frequent cause of the paralysis is compression of the spinal cord due to thickening of the meninges with inflammatory products. Compression of the cord may also result from an abscess, from a sequestrum or from edema. As a rule paralysis is not the result of direct compression of the cord by the softened and collapsed vertebrae, for many cases in which the deformity is extreme have no paralysis, and on the other hand paralysis may precede the appearance of deformity. Nevertheless, direct compression of the cord by the softened and collapsed bones sometimes does occur.

Inasmuch as in the vast majority of cases the paralysis of Pott's Disease is spontaneously recovered from, surgeons have usually contented themselves with expectant measures of treatment, securing as thorough fixation and protection of the spine as possible by rest in bed, accompanied sometimes by the employment of traction and counter-traction. In some cases the various forms of mechanical support, together with such general measures as may be indicated, are depended upon, without confining the patient to the recumbent position. Exceptionally, in cases resisting these conservative measures, relief of the pressure on the cord has been essayed by the operation of laminectomy; or, with the same end in view, attempts have been made to evacuate deep-seated abscesses, loose pieces of bone or masses of tubercular debris. These surgical measures occasionally have realized brilliant results, but more frequently there has been only temporary alleviation of symptoms or no improvement at all, while in not a few instances such operations have proved fatal. When, three or four years ago, Calot made the first report on his attempts at the forcible reduction of the deformity of Pott's Disease, and surgeons in various parts

of the world began to perform the operation, much interest was naturally aroused in the question of the effect of the sudden reduction of the deformity in cases complicated by paralysis. Reports of various operators have made it clear that, however doubtful or uncertain the ultimate results of this somewhat heroic operation may be in uncomplicated Pott's Disease, it is at least a valuable resource in some cases accompanied by obstinate paralysis.

In many cases, however, equally favorable effects on the paralysis may be secured by much simpler and safer means. In 1899, in a paper read before the American Orthopedic Association, Joel E. Goldthwaite described an apparatus for maintaining the spine in a hyperextended position during the application of a plaster-of-Paris jacket. Essentially the apparatus consists of a gas-pipe frame, 6 feet long and 2 feet wide, with such adjustable attachments that a patient can be placed upon it so that practically his whole weight is borne upon the kyphos. Goldthwaite devised this apparatus for the purpose of maintaining the best possible position of the spine after the forcible reduction under ether until the plaster jacket was applied; but it was soon discovered that, in a very large proportion of cases the preliminary forcible reduction of the deformity was unnecessary, and that when the patient was placed in the apparatus the weight of the body in the hyperextended position of the spine induced by proper adjustment in it was sufficient to effect reduction. In pursuing this method of reducing the deformity, it was noted as an almost constant occurrence that in cases complicated by paralysis, even of very severe type, a most remarkable improvement was realized. The return of power to the paralyzed muscles was moreover so prompt, occurring in some cases while the patient was still in the apparatus, that the possibility of the improvement being a mere coincidence was completely ruled out, and there could be no doubt that the relief of the paralysis was due entirely to the altered position of the spine. Similar results were obtained by other observers who adopted the same plan.

Upon examining Goldthwaite's method, it is apparent that in principle it is as follows: The patient is supported on a fulcrum placed directly under the kyphos, and at the same time the spine is hyperextended by allowing the portions of the body above and below the kyphos to sag downward by their own weight until they come in contact with supports placed on a lower plane than the fulcrum; in other words, the body is simply bent backward over a support placed beneath the deformity; in this hyperextended position a retentive plaster dressing is applied. This principle may be employed in certain cases while the treatment of the disease by recumbency is being carried out, and with very gratifying results.

W. F., aged 3 years, was referred to me by Dr. Sherk, of Cheapside, in June, 1899. The child was unusually large and

well developed for his age, but was somewhat anemic. Upon examining the spine, a prominence corresponding to the 8th, 9th and 10th dorsal vertebrae was easily discernible. The deformity had been steadily increasing for some time. There was complete loss of power of voluntary movement of both lower extremities, which had existed for several months, having come on shortly after the first spinal symptoms appeared. Urine and feces were voided involuntarily, but owing to the age of the child it was not possible to ascertain with certainty that this was due to paralysis. The child was admitted to the Toronto Orthopedic Hospital and placed upon a gas-pipe frame about four feet long by 20 inches wide, over which canvas had been tightly stretched. This frame was put into an ordinary hospital cot, and so arranged that the upper end, corresponding to the child's head, was elevated about one foot higher than the lower end, thus forming an inclined plane. By means of a suspension halter grasping the chin and occiput and fastened to the upper end of the bed, the tendency of the child to constantly slip downward on the inclined plane was turned into an efficient extension and counter-extension arrangement. A towel, with a thick pad of felt sewn in the proper place, was then drawn under the body so that the felt pad came directly under the kyphos, thus supplying a fulcrum which elevated the spine at the point of disease and hyperextended the entire spinal column. Loops over the shoulder fastened the canvas, and a towel passing over the anterior surface of the trunk, and secured to the frame, served to keep the child from turning over, or otherwise moving his body so freely as to interfere with that complete fixation which is so essential in the management of a tuberculous spine. On the third day after being thus arranged, it was noticed that the child was moving his legs and drawing them up in bed, and within a month he had so fully recovered the muscular control of his limbs that the nurses not infrequently found him with his feet hanging over the elevated sides of the cot. After a residence of six weeks in the hospital the child was removed to his home, where the same plan of treatment was continued. I saw him two weeks after his return home, and his condition was most satisfactory. The paralysis had wholly disappeared, and the symptoms indicated gratifying improvement in the bone lesion. After several months the recovery was so far advanced that, after applying a steel spinal brace, I allowed the child to sit up, and in a short time he was running around. He is still wearing this brace, which has been modified several times, and everything indicates an early consolidation of the spine at the point of disease, and a good recovery with a relatively small amount of deformity.

To those unfamiliar with the matter, and especially to the parents of the child, it is apt to appear a somewhat formidable undertaking to impose upon a child for weeks or months such a

degree of restraint in an unnatural position as was practised in this case, but as a matter of fact little or no difficulty is experienced. The marvellous facility with which children adapt themselves to changed circumstances could scarcely have a better illustration. Good nursing is, however, most essential, and it is especially important that the skin covering the prominence in the back should receive the greatest care to prevent its becoming sore or too tender to bear the pressure put upon it, but with proper management no serious trouble will be experienced. Here again Nature comes to our aid, and a bursa soon develops over the kyphos; but the slightly increased prominence caused thereby may at first sight readily be mistaken for an increase of the deformity.

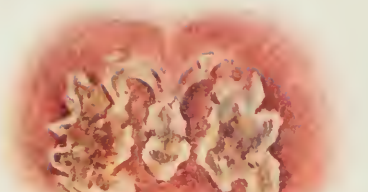
It seems to the writer that the plan of treatment here described possesses certain commendable advantages. Recumbency has long been recognized as a valuable method of managing even uncomplicated cases of Pott's Disease. Excellent fixation of the spine can be secured by a variety of mechanical means, some eminent authorities to the contrary notwithstanding. It is quite true, however, that the complete removal of the superincumbent weight which helps to crush down the softened vertebræ and increase the deformity can not be accomplished by any mechanical apparatus that has ever been devised. Although it is true that many cases of ordinary severity do very well under efficient mechanical treatment, and that even cases complicated by paralysis may often be brought to a happy termination by the same means, the fact that the paralysis may be due to direct compression of the cord justifies the adoption of extraordinary measures to prevent the increase of deformity or to reduce that already existing. Nearly all surgeons who have tried the operation of forcible reduction agree that the difficulty is not to reduce the deformity but to prevent its recurrence. Goldthwaite reports some relapses after his method, and moreover states that in practically all cases it is necessary to cut a window in the plaster jacket over the deformity to prevent the formation of an ulcer. These facts, together with the inherent advantages of recumbency, incline the writer to believe that the plan here described, which secures the continuous combined action of recumbency, traction and counter-traction, hyperextension and direct pressure on the kyphos, is preferable to one which attempts the difficult task of maintaining the hyperextension and pressure by a plaster dressing. The writer does not claim originality in the arrangement of the patient above described. The object of the paper is to emphasize the importance of hyperextension, secured by simple means, in treating cases of Pott's Disease, complicated by paralysis, and to urge the advantages of maintaining the hyperextension by recumbency rather than by a plaster jacket.

12 East Bloor St.

THREE-COLOR REPRODUCTIONS FROM LIFE. SHOWING THE
DEVELOPMENT OF THE DIPHTHERITIC MEMBRANE AND ITS
DISAPPEARANCE RESULTING FROM THE ADMINIS-
TRATION OF MULFORD'S ANTITOXIN.



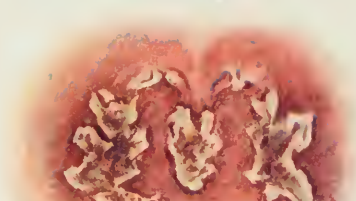
First day of disease
Appearance of Membrane



Six hours after administration of Antitoxin
Showing arrested growth of membrane and beginning line of demarcation



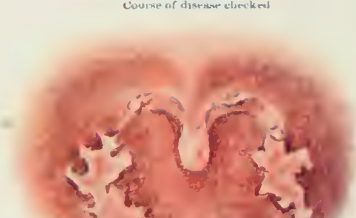
Twelve hours later



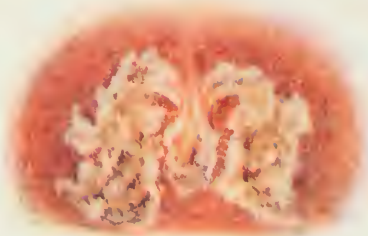
Twelve hours after admin-
istration of Antitoxin
Course of disease checked



Twenty-four hours later



Twenty-four hours after
administration of Antitoxin
Convalescence established



Second day of disease
Showing involvement of
tonsils and hard and
soft palate
At this stage of disease
Mulford's Antitoxin was first
administered



Second day after adminis-
tration of Antitoxin
Showing throat assuming
normal appearance

FURNISHED BY COURTESY OF

H. K. MULFORD COMPANY

PHARMACEUTISTS

PHILADELPHIA

CHICAGO

THREE-COLOR REPRODUCTIONS FROM LIFE SHOWING CYCLE OF VACCINATION: TYPE
 VACCINE VESICLES FROM INOCULATION TO CICATRIZATION, FOLLOWING
 THE USE OF MULFORD'S GLYCERINIZED VACCINE LYMPH.



FOURTH
DAY



TENTH
DAY



FIFTEEN
DAY



TWENTIETH
DAY



THIRTIETH
DAY



FORTIETH
DAY

PREPARED BY COURTESY OF

H. K. MULFORD COMPANY

CHICAGO, ILL.

PHILADELPHIA

CINCINNATI

Public Health and Hygiene.

... IN CHARGE OF ...

J. J. CASSIDY, M.D., AND E. H. ADAMS, M.D.

HISTORY OF THE PROGRESS OF PUBLIC HEALTH DURING THE CENTURY—1800-1900.*

BY PETER H. BRYCE, M.A., M.D., TORONTO.

Mr. Chairman, and Members of the American Public Health Association.

LADIES AND GENTLEMEN,—It becomes my pleasing privilege as your duly elected President for the year 1900, to express to you my deep sense of the honor conferred upon my country and myself, as her representative, through your generous act. To have been called upon to preside over the deliberations of a Congress, which is engaged in studying questions of vital interest to three nations and to ninety millions of people has, indeed, served to impress me not more with the magnitude of the work we are engaged in than with the limitations of my powers to adequately fulfil the duties and responsibilities which the position involves. Allow me, therefore, ladies and gentlemen, to bespeak for myself your generous indulgence and kindly sympathy while performing the duties of your presiding officer; and for my excuse in those matters wherein I may fail, I must take refuge under that time-honored excuse expressed in the words of the old Latin poet:

“Si possem sanior essem,
Sed trahit invitam nova vis; aliudque cupido
Mens aliud suadet: video meliora proboque
Deteriora sequor.”

With the passing of more than a quarter of a century since the first annual meeting of this Association, many of its earlier members have ceased from their labors; but it becomes my official duty to record the untimely deaths of several members who have passed away while still in the prime of life.

I recall the names of Edward Oram Shakespeare, M.D., of Philadelphia, Penn., of George Edom Coulthard, M.D., of Fredericton, New Brunswick, of Henry Cooper Crouch, M.D., of Denver, Colorado, and of E. A. Guilbert, M.D., of Dubuque, Iowa.

* Annual address of the President of the American Public Health Association.

To mention the name of Dr. Shakespeare is but to present to the mental vision the author of that classical work on cholera, which has supplied us with so comprehensive an outline of the conditions which have governed in the past, and still are largely present in outbreaks of this scourge of former times.

I can well recall Dr. Shakespeare, as he labored at quarantine on the Delaware, associated with state and municipal officers in 1892, to protect his city and country against the threatened invasion of this disease. Since then his kindly and genial presence was with us at our meeting in Philadelphia in 1897. His demise has seemed sudden to many, who knew nothing of his illness until his death was chronicled on June 1st.

Of Dr. Coulthard, the Secretary of the Provincial Board of Health of New Brunswick, it might be said that all who have known him during the last five years, during which he has regularly attended the meetings of the Association, will retain a recollection of him as a gentlemanly but retiring man, but who proved on acquaintance a genial friend and an enthusiastic officer of health. His work was well known and appreciated in his own Province, while his activities as a physician and citizen in Fredericton were spoken of most favorably by the local press. In him the public health service in Canada loses an active and conscientious worker, and this Association a loyal member.

Of others who have passed away, the Association has had less opportunity of learning their worth. The positions, however, which they have held in their own state and city, have marked them as active workers in the field of public medicine, and they have passed *magna cum laude* to their rest with the honored dead.

But while I recall the memory of our dead, I take this opportunity of expressing as their official mouthpiece, the sense of pleasure which the members of this Association may fairly indulge in as they find themselves greeted by the living representatives of this beautiful city in a State in what is rapidly becoming to us the older West. I am not exactly informed as to just at what age an American State attains its majority; but I take it that any State that has presented a President to the nation—and such a President as Benjamin Harrison—must be looked upon as having arrived at years of full maturity.

The Association trusts, however, that even a mature State may still find something of value to be obtained from having its sessions held in its capital city; and in return its members hope to bear away with them memories, not only of kindly welcome and generous entertainment, but also evidences of the application of science to public health problems in a manner often more easily carried out than where the traditions of the hoary past still linger.

The Association feels sure, however, that in a State whose

earliest boundaries, indeed, were embraced in those two wondrously euphonious words, "Ohio, the Beautiful," and "Ouabache, the White," its members will experience from her citizens every kindness which can spring from those who live constantly under the beneficent tutelage of the good deities of two such beautiful streams.

It has become the established custom of past years to summarize in the presidential address some of the more important phases of public health work, which have attracted scientific attention during the year preceding each annual meeting. The past year, like those which have preceded it, has also presented matters of interest, which might with profit be referred to; but as such will naturally engage our attention in the several papers to be presented at subsequent sessions, I have deemed it not inappropriate to attempt a survey of public sanitation as embraced in the history of social and scientific progress during the century just closing; and can only hope that from such we may obtain some idea, however inadequate, of the truth so beautifully expressed by Emerson in his essay on "History," "That there is a relation between the hours of our life and the centuries of time. As the air we breathe is drawn from the great repositories of nature, as the light on my book is yielded by a star a hundred millions of miles distant, as the poise of my body depends upon the equilibrium of centrifugal and centripetal forces, so the hours shall be instructed by the ages and the ages explained by the hours."

In order, then, to obtain any adequate conception of the causes which have brought "Public Health" as a science to the position we find it occupying at the close of the century, we have to inquire into the influences which have been at work during the hours of the century, and of that period just preceding it, the "Renaissance," which may justly be called the birthday of modern science, and of which Carlyle said: "Behold a new era is come; the future all the brighter that the past was base."

Of it, as epitomized in the French Revolution, we may truly say that though its advent was marked by portents, agonies and birth-throes, yet there it stood an indubitable fact, with infinite potentialities, and having stamped upon its, as yet, infantile features the ineradicable birthmark, "The rights of man." For fifty years had France, England, Germany and America been sensible of the pulsations of a new being, and philosophy and science had conceived it and been its sponsors at the christening. Not, however, that in germinal force it had not existed earlier; for had not Copernicus, Kepler, Galileo, and Newton already lived and offered to the world divine gifts? But till now, as of the words of the great Moral Teacher of an earlier age, "The ears of men were deaf that they might not hear." Or as expressed by Carlyle, "Of

a truth the long demonstrated will now be done: the age of revolutions approaches, but then of happy blessed ones. Man awakens from his long somnambulism; chases the phantoms that beleaguered and bewitched him."

To none more than to the sanitarian is it evident that the ethical element or "elevation in the scale of being" must ever be the measure of social progress; and hence it is that sanitary reform is intimately associated with the history of religious, political and social development; for our motto, "*Mens sana in corpore sano*," is but a terse expression of the fact that the science of public health relates to man in every phase of his being. Hence it becomes necessary that we review the social status of the peoples amongst whom our science took its birth, in order that we may comprehend what progress has been made.

To mathematics, whose development first gave to that oldest study, astrology, a form and meaning, stripping it of its mysteries, and enabling men to establish the first truth of science, viz., the unalterable character of the laws which govern the universe and guide the planets in their course, are we to look for the first evidences of that intellectual development which marked the "Renaissance." As a part of it began those experiments in physics, or natural philosophy, which had especially marked the genius of Galileo, who gave us some of the first crude scientific instruments, making deeper physical investigations possible. Slowly indeed were the swaddling bands of astrology and witchcraft cast off, and the reign of natural law inaugurated. But Bacon, with his marvellous powers, had taught the inductive method, and pressed forward the idea of a Scientific Society, which might give prestige to the work of original experiment, and which resulted in the Royal Society of England being founded in 1649.

By it first were published those discoveries of Newton which made the extension of his marvellous investigations possible to students on the Continent. Their supreme importance may be judged from the fact that in France we find that the greatest scholars among the Encyclopædists were all mathematicians, and that D'Alembert, Lagrange, Helvetius and others won their membership in the Academy of Sciences by theses on some subject of natural philosophy. But with the foundation built on which the superstructure of science became possible, we find the spirit of investigation spreading into every field, and though editor Diderot saw volume after volume of the Encyclopædia seized under royal interdiction, yet after years he saw them published even with royal sanction, since in them the royal mistress found the method of making rouge and manufacturing silks, and the King found described the method of making gunpowder. So it came to pass that this marvellous work of twenty-one volumes became a potent

agency in developing the spirit of the New Age over both Europe and America. To it D'Alembert, Helvetius, Turgot, Buffon, Condorcet, Marmontel, Rousseau, and St. Lambert were contributors; while towering above them was patriarch Voltaire, as he was affectionately called, and of whom as philosopher, litterateur, poet and politician, Carlyle has said: "So far as present knowledge enables us to judge, it may be said that to abstract Voltaire and his activity from the eighteenth century, were to produce greater difference in the existing figure of things (1829) than the want of any other up to this day." Indeed, then, the thirst for knowledge may be said to have become a universal passion, and it is stated that at this time the sale of books in Paris was four times as great as in London. Remembering, as Lecky writes, that "In France absolute monarchy had destroyed all liberty and all opposition; and having prevented a school of practical reformers, politics came to be treated like a problem in geometry or ethics, to be worked out on general principles with a complete disregard to the traditions and the special circumstances of the nation," it is little wonder that Rousseau's "*Contrat Social*" came to be looked upon as a new gospel, and for the influence it exerted we must class it with Adam Smith's "*Wealth of Nations*." How could it be otherwise when it set forth what were then new ideas, but to us now mere axioms: That (a) Society originally was formed for the protection of the lives and property of those composing it; (b) That to live in peace and security was the right of individuals; (c) To this end certain organizations and laws were necessary; (d) That as to do this costs money, equalized taxation was necessary and majorities should rule. The outcome of such teachings to a people to whom science was revealing the marvellous secrets of nature, and teaching a uniformity of laws, and the dominance of intellect is obvious. Of that ever memorable 4th of May, 1789, when Versailles saw the convocation of the States General, which had not met since 1614, in a country where existed "no Habeas Corpus Act, no liberty of the press, no legalized religious liberty, no trial by jury, and no national representation," Carlyle says: "It is the baptism day of Democracy; sick Time has given it birth, the numbered months being run. The extreme-unction day of Feudalism, a superannuated society decrepit with toils. . . . is now to die; and so, with death-throes and birth-throes, a new one is to be born." Amidst all the horrors of that revolution, which advanced with lightning rapidity, there is to be observed the influences that preceded the Renaissance, regarding which Talleyrand remarked: "He who did not live before 1789, has never known the charm of life." As expressed by Lecky: "The study of physiology, botany, comparative anatomy and electricity advanced with gigantic strides; and in the enthusiasm which prevailed, it was imagined

that physical science would soon unlock the secret of the Universe and disclose the mystery of life."

Lavoisier laid the basis of the science of chemistry, and Fourcroy by popular lectures made its study fashionable; Petit taught anatomy, Nollet electricity, and Arago astronomy; while Laplace in his "*Celeste Mechanique*," gave to the world his nebular hypothesis, which at the end of this century still stands for us as a working theory of the evolution of the Universe. And even though Mongolfier excited the wonder of the people by his balloons, and Mesmer cloaked a scientific fact with charlatanism, while Count Alessandro di Cagliostro, by profession healer of diseases, abolisher of wrinkles, friend of the poor and impotent, Grand-master of the Egyptian Lodge of High Science, spirit-summoner, gold-cook, Grand Cophta, Prophet, Priest, and thaumaturgic moralist and swindler, exploited the ladies of three courts, only to come to grief at last over the theft of the diamond necklace; yet there is the immanent fact that in the councils of this period of maelstrom ferment, when so many noble men were sucked into the vortex, there was a galaxy of earnest spirits filled with a love of truth, greater probably than was ever before gathered in the parliament of any nation.

It was as the Golden Age of Greece in art, or the glories in literature of the Elizabethan period. Turgot, writer on economics, was Minister of Finance, and Helvetius, the mathematician, was Director of Forests and Farms, and developed scientific agriculture. Laplace was a Secretary of State under the National Convention, while Lavoisier, whom the German, Wurtz, has called the father of French chemistry, was, in the words of Lalonde, "to be found everywhere." And with what good reason amongst a people where the search after scientific truth was at fever-heat in every department of life. It was as when the prisoner comes from the close dungeon into the free air of heaven; he breathes deeply and again for fear he may lose it. The situation is epitomized in the life of Lavoisier, a model of what the man of science may and ought to be. Born in 1743 of wealthy tradespeople, he has had all the early advantages of the schools of his time, studied mathematics, astronomy and botany assiduously, and become so absorbed in Natural Philosophy that at 23 years of age he gained the gold medal at the Academy of Sciences for a thesis on "*Lighting of the Streets of Paris*." He analyzed gypsum, and is soon found touring France with Guellard and making a geological map, subsequently publishing "*Memoires sur couches des Montagnes*." At 26 years he was made one of the Farmers General, in order that his resources for advancing scientific study might be increased. Imagine such a possibility to-day! He soon overtook the pneumatic studies of Black, Cavendish, and Priestley, checked their

errors and added to and gave form to their studies on air. Weekly experimental laboratory reviews of work done were carried on by him with Laplace, Mayer, Berthollet, and Foureroy. In 1778 he gave to Priestley's dephlogisticated air the name of oxygen, meaning thereby the acidifying principle. In 1784 he analyzed water; in 1781 synthesized carbonic acid, thereby making the first advance towards the analysis of organic substances, and in 1787 published "*Methode de Nomenclature Chimique*," a system of nomenclature which lasted for fifty years, and is the basis of that still in use. In social reform, as a Farmer General, he succeeded in having many oppressive taxes of the people removed, even from the Jews of Metz.

In 1776 he was made the director of powder-works by Turgot, soon quadrupled the output, and improved by one-third its explosive power. It was Lavoisier who made the chemical balance the *ultima ratio*, and hence established the basis of quantitative analysis. He analyzed soils and manures, and even doubled the product of his own farm. In 1787 he was the philosophical statesman of the Provincial Assembly of Orleans.

In 1789 he reported to the National Assembly on "*Caisse d'Escompte*," and in 1790 sat on "*The Commission of Weights and Measures*;" while in 1791 as Commissioner of the Treasury, he established a system of accounts hitherto unequalled; and soon he was asked to write a treatise on taxation, and wrote "*De la richesse Territoriale de la France*." And now the political eclipse! On 2nd of May, 1794, Dupin, in the National Convention, brought some frivolous charge against Lavoisier, and six days afterwards he, with twenty-seven others, went to the guillotine, the brutal reply to a petition for a reprieve being, "The republic has no need for savants." Well were it for progress if the words of Lagrange regarding Lavoisier, were in these days of political *bouleversements* "writ" large everywhere. "*Il ne leur a fallu qu'un moment pour faire tomber cette tete, et cent annees peut-etre ne souffriront pas pour en reproduire une semblable.*"

But enough has been said to fully illustrate those widespread intellectual and scientific movements, which, springing up so largely in France, spread even to the courts of Germany and Italy, and to the aristocratic throne of the Czars, and which laid the basis of the marvellous progress in practical science of the 19th century. Nor must it be supposed that these influences extended only to the progress of the pure sciences. Foundling and Magdalen Hospitals were founded, Abbe de l'Epee invented an alphabet for the blind, and Houay founded an institution for the deaf and dumb, and asylums were opened for the insane; while Frederick the Great made education almost compulsory in Prussia.

To England must we now look and examine a current of influ-

ences arising from allied but different causes, and productive of a social progress based, perhaps, on a less exact intellectual and scientific foundation, and more on what may be called the practical social needs of a people. The deep-laid religious convictions of their ancestors, who in a previous century had struggled for religious and political freedom at a time when France was under an absolute despotism, and which culminated in the Civil War and the Commonwealth under Cromwell, and the subsequent Revolution of 1688, with the establishment of a new dynasty on the throne, had never been lost or seriously dissipated, especially among the agricultural and industrial classes, whether of England or her great colonies in America. It is true that the parties of the early part of the 18th century exhibited every shade of political corruption; but the idea of the liberty of the subject and of the constitutional limitations of the Crown, growing out of the Witanagemot of the old Saxons, was never lost; while the growth of colonies and of sea-going commerce kept alive a spirit of enterprise and independence of thought, which received added strength from the marvellous industrial progress of the latter half of the 18th century, due to the mechanical inventions which gave England that financial prominence which has marked her course through the 19th century. The French intellectualism of the "Renaissance" found a congenial soil for its growth among the descendants of the Pilgrim Fathers and the Virginian descendants of those emigrants who for two centuries had breathed the free air of a new world; while the outcome of the War of Independence gave to a decadent Toryism in England its *coup-de-grace*.

Such were the influences which enabled the younger Pitt, Premier of England at twenty-five years, to be surrounded by men of unusual intellectual strength, and which carried England safely through the trying years of the French Revolution and the Napoleonic wars; while by France the world was taught very many lessons of what a people once in thrall may become and do, when, imbued by the truths of the "Contrat Social" and the "Rights of Man," they strike for individual and national freedom. England had with the growth of the colonies and the founding of the new empire in India, been developing her commerce during the reign of the first Georges; but this progress became rapidly accelerated from 1750 onward, owing to several remarkable mechanical inventions in manufacturing machinery.

Of these, the inventions for the manufacture of cotton goods were the greatest in their immediate results. The stories have often been told of how Hargreaves invented the spinning-jeenny, and Arkwright increased by the use of rollers many times over the amount of yarn made, and of how Cartwright made the power

loom and cylinder presses for printing cotton goods; while the improvements of Watt, once a Scotch watch-maker, in the steam engine, making almost the very machine we see to-day, which enabled Arkwright to run his machines by steam, and engineer Rennie to set the wheels of the great flour mills revolving by the same agency, are familiar to all. If to these we add the improvements made in the manufacture of iron and the extension of the use of coal, and the construction within a few years of miles of canals, making cheap transportation, we may understand some of the principal influences which gave pre-eminence to England in commerce, while entirely altering both her internal economic conditions and her foreign policy. Manchester, Liverpool, and Glasgow sprang from small towns into cities, and agricultural England by the end of the century had become a country of large urban populations, with mercantile fleets upon every ocean. Indian nabobs returned home to spend their millions of rupees, and with the rise of wages were begotten higher modes of living, associated with a sense of educational needs, all stimulated by the intellectual renaissance on the Continent. What this industrial expansion means may be gathered from the fact that within the 40 years up to 1840, the number of those engaged in the cotton manufacture in England had risen from 80,000 to 883,000; while the population of Lancashire alone, during the 18th century, rose from 166,200 to 672,000. To-day it is over 4,000,000.

To these causes, briefly summarized, are we to look for the beginnings of what we now call State Medicine, of which England has during the 19th century been the most fruitful field. Up to the end of the century, the sudden expansion of her foreign trade, owing to these discoveries, and the high prices consequent upon the Napoleonic wars, created such high rates of wages and so great general prosperity, that the sanitary evils which were so rapidly growing up with the development of the Factory System, were as yet hardly noticed. But the escape from a calamity such as had overtaken France in the National Revolution, had accelerated what is called the "Evangelical movements" (so large a factor in educating the national conscience in England), to a sense of the truth of the Scripture, "that man is his brother's keeper." Associated with the younger Pitt, the model of the domestic statesman, as a personal friend, was William Wilberforce, whose broad Christianity and sound common-sense served to make him the first social reformer, whose energies as a legislator were definitely devoted to the amelioration of the condition of his fellow-men; while being supported outside by the Society for the Abolition of the Slave-trade, amongst whom the Quakers were the most active. Public meetings were held and statistics were carefully collected to show the inevitable horrors of the traffic. Wilberforce presented in 1788, no

less than 13 petitions to Parliament, praying for its abolition; and the first steps were taken in that year to mitigate the horrors of the ocean passage. The opposition was great and the fight prolonged. But that strong practical conscience of England, which time and again has forced Parliament to act, as in the Reform Bill of 1831, and the repeal of the Corn Laws in 1846, had been aroused; and the people proved their sincerity by multitudes refusing to use sugar, as being a product of slave labor. This education of the public conscience by public meetings, was now for the first time becoming a normal instrument of politics, and of such influence under popular government we, in our day, are fully convinced.

This anti-slavery crusade was but another phase of a work, which may be looked upon almost as the first attempt at sanitary reform, viz., the investigations of the prisons of England and the Continent by John Howard. First captured at sea in 1756 by a privateer and sent to a French prison, he had personal experiences of the abuses which existed; and in 1753 as High Sheriff of Bedfordshire, he had ample opportunities of studying the prisoners under his charge. Till his death in 1790, prison reform became his life-work, and to Britain and the countries of Europe he revealed a mass of mal-administration and atrocious treatment, which made the most indifferent assume an interest. Insufficient food and starvation, only prevented by private charity, no sewers, no infirmaries, and no means of warming prisoners, and almost no water, was a rule to be found; while prisoners were crowded "in dark, subterranean dungeons, reeking with pestilential effluvia." In most prisons there was no allowance for bedding or straw to lie on, which, even if obtained, was not changed for months. There was almost no ventilation, owing to the window tax; and so vile was the air "that Howard declared that after visiting the prisons his clothes were so impregnated that he could not bear to drive in a post-chaise with closed windows." Naturally in such a place human life rapidly withered, and scurvy was deadly; while typhus, called gaol fever, raged with such virulence that more prisoners died from it than from the gallows, while prisoners if discharged became sources of contagion wherever they went.

Many gaols were private property, and here, as in too many public ones, evils of even a grosser kind prevailed, for chains, iron collars, and even iron bars removed by brutal gaolers only for bribes were in use; while lunatics were often added, making pandemonium of Tartarus. Old and young, male and female, were indiscriminately huddled together, and prisons for punishment became schools for vice. Such conditions seem to have been worse in England than in some other countries, as Holland and Switzerland, where Howard was told that gaol fever did not exist. Though Pitt recognized the evils and need of reform as pointed out by

Howard, yet but little was accomplished until the times of the great reforms in the third decade of the 19th century. Reference has been made to the great and rapid development of factories and the aggregation in towns of a population largely rural. One of the greatest evils resulting from this was the employment of cheap child-labor, so many men being drafted away to the continental wars. Indeed, so completely did the great Pitt misconceive the situation, that in speaking about the laboring classes he pointed out how much was got from the industry of children and the advantage of employing them at an early age. Indeed, many were sent out at ages of from six to ten years, from workhouses, and contracted for, commonly working in factories from twelve to even sixteen hours daily, as was proved by Parliamentary inquiry. Curiously, as a result of this industrial development, there took place the immense increase of negro slavery in America, which, as pointed out by John W. Daniel, of Virginia, in his famous oration on Jefferson Davis, had been protested against in 1727 by South Carolina, and prohibited by law in Georgia in 1760, while Virginia taxed every owner \$10 per slave. Indeed, as remarked by Lecky, it seemed at the time of Washington "likely to be extinguished by an easy and natural process." How slow, in the face of the growing influence of the great centres of manufacture in England, was the growth of Factory Acts and Public Health legislation, we shall see as we trace the progress of the 19th century.

As regards the evolution and progress of Public Health during the present century, there would seem to be four periods more or less distinctly marking its growth, and that of those sciences which form component parts of it. These are:

1. The period of Investigation, extending to about 1830.
2. The period of Agitation, extending to 1850.
3. The period of Legislation, to 1875.
4. The period of Elaboration and Development.

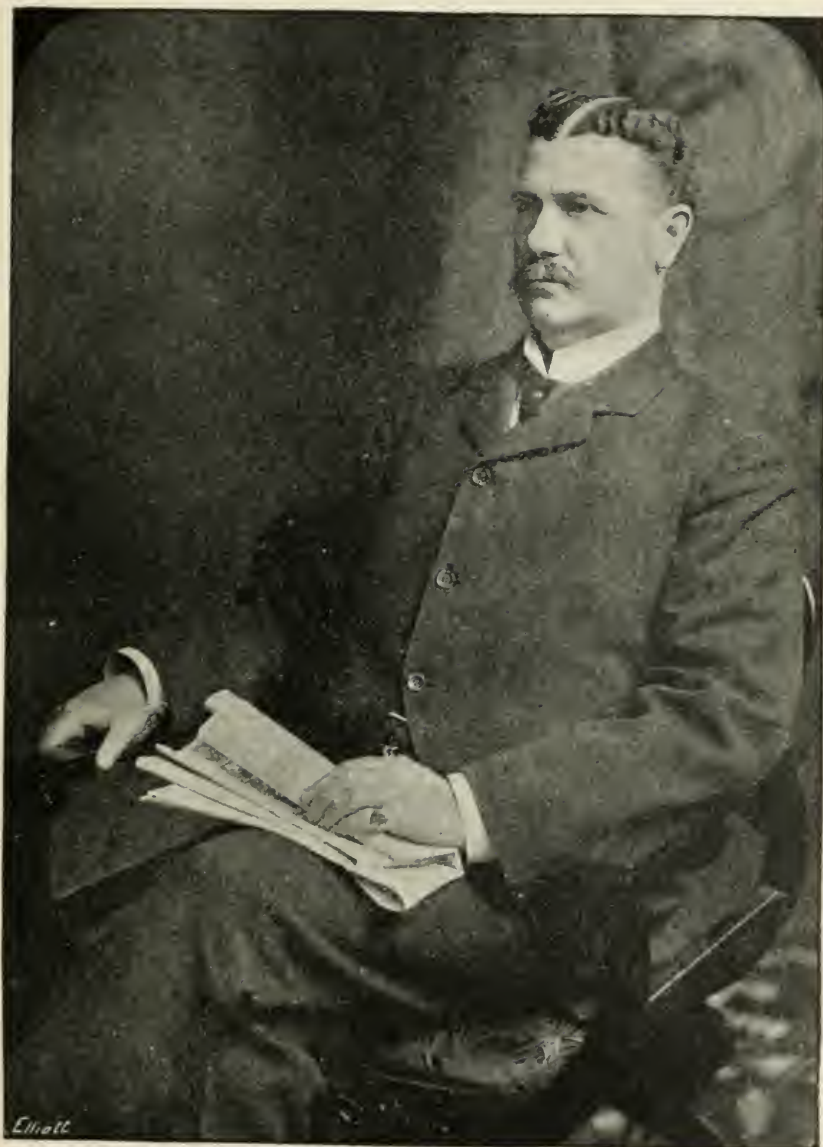
We shall refer briefly to each of these.

(To be continued.)



TORONTO GENERAL HOSPITAL, MAIN BUILDING.

Ellis



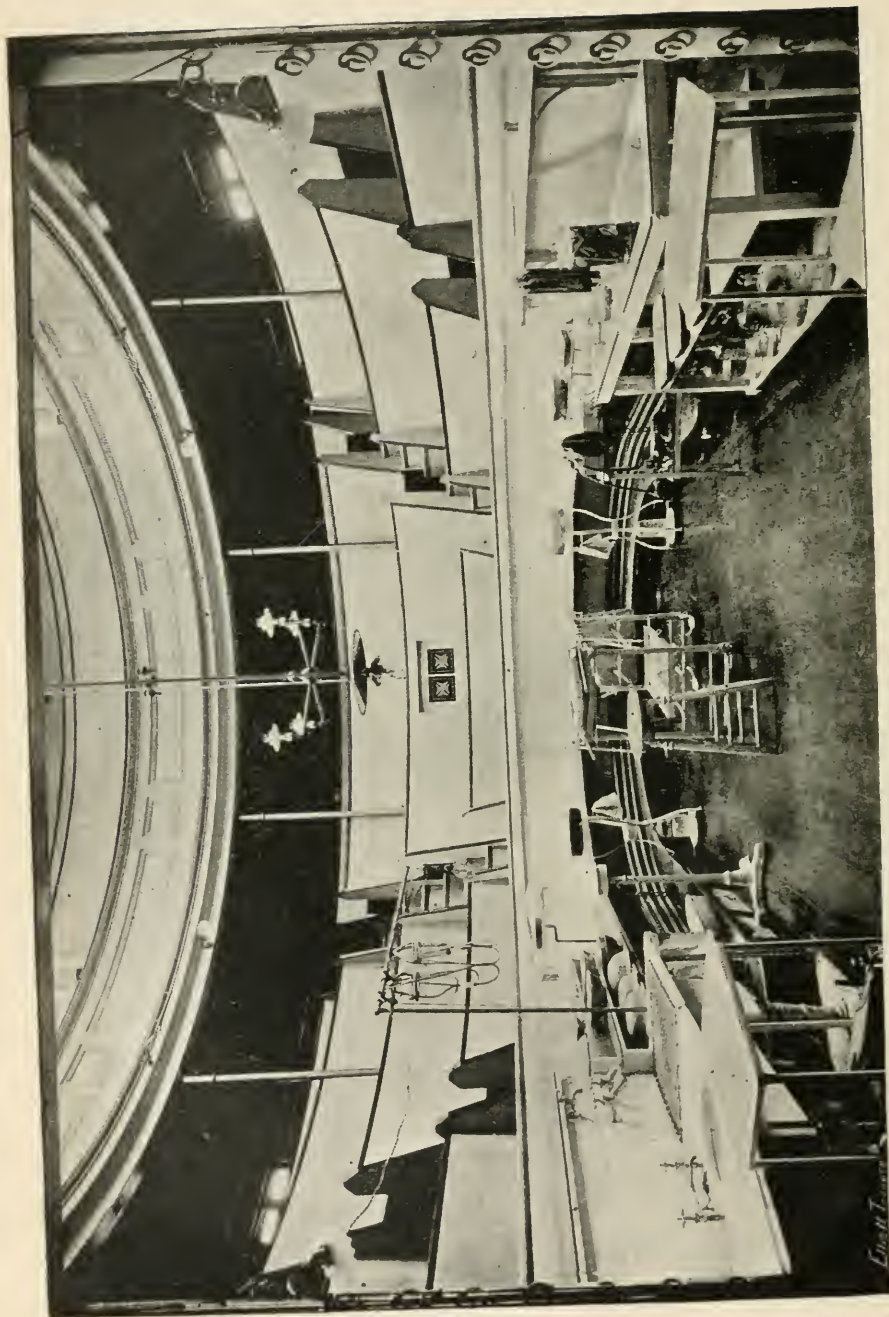
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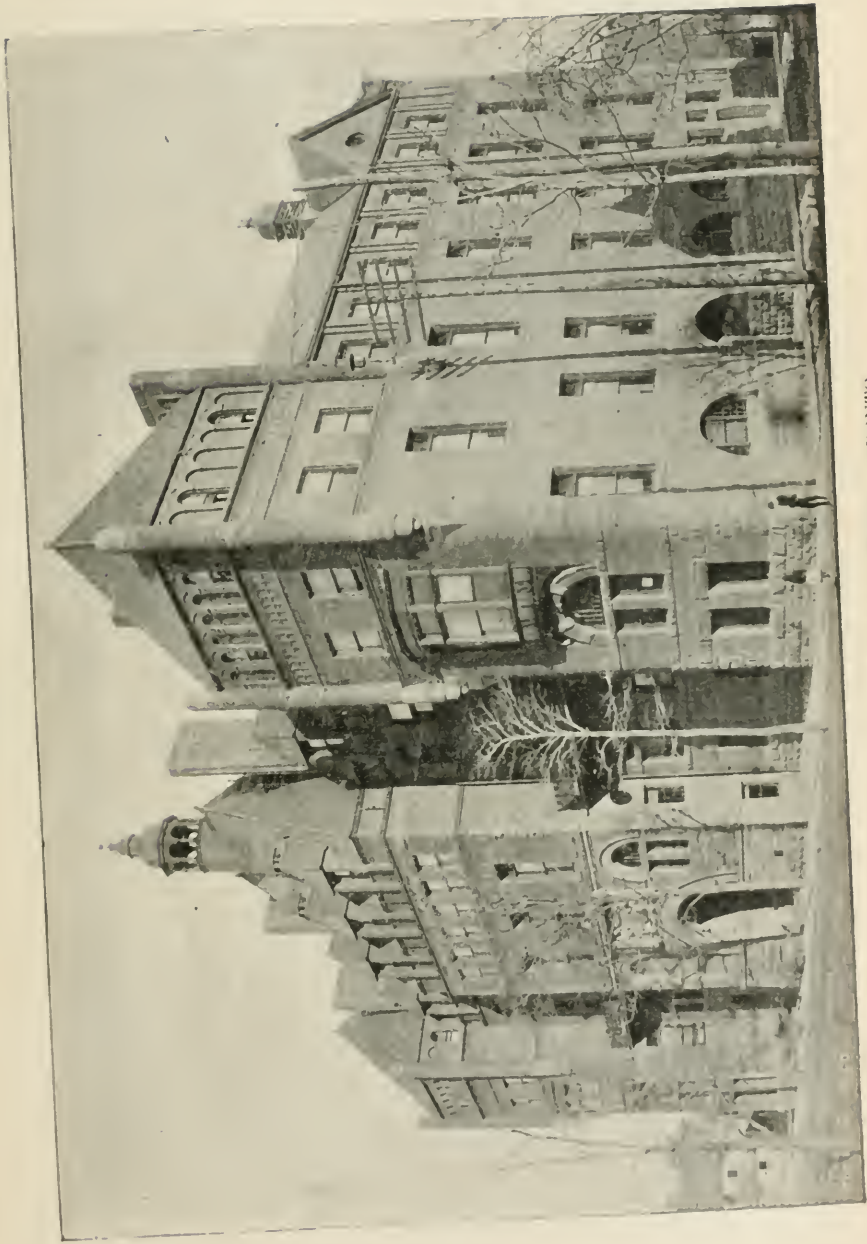
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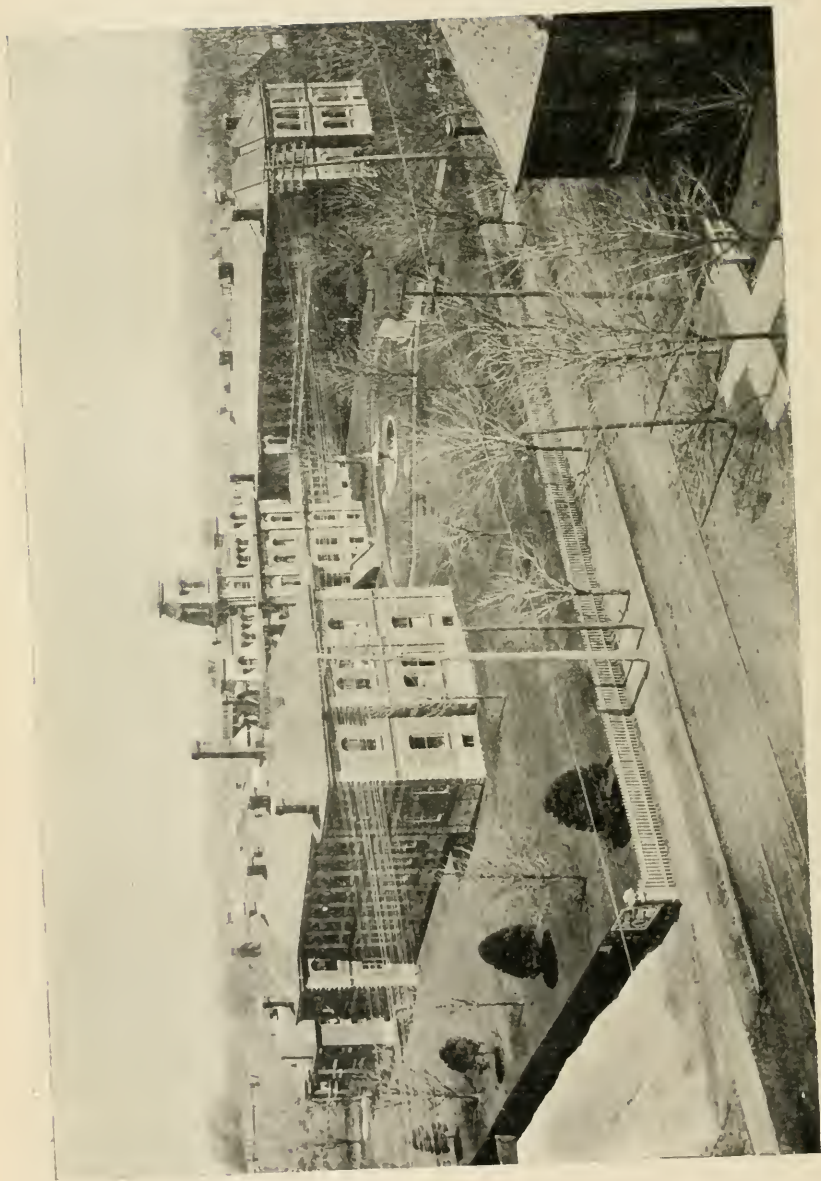
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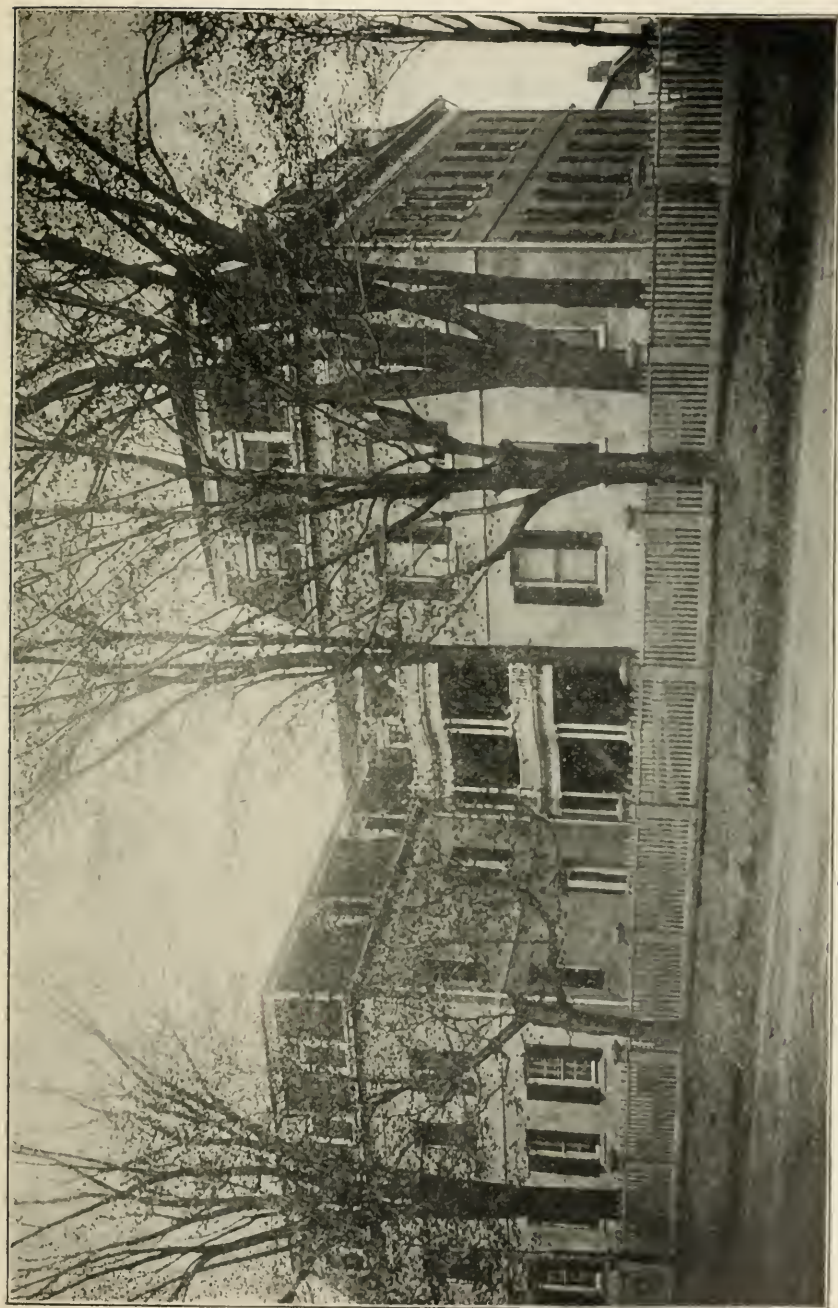
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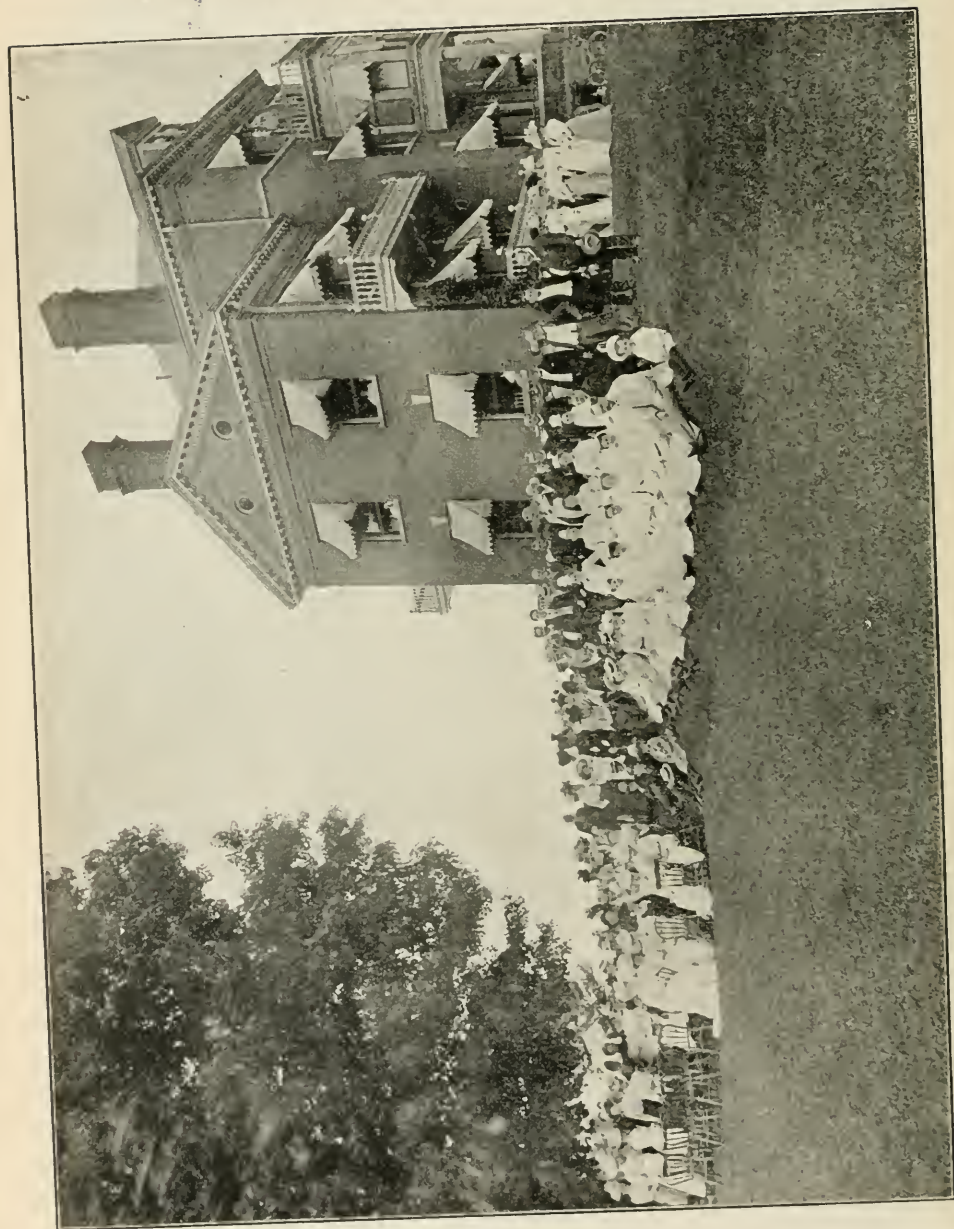
HOSPITAL FOR SICK CHILDREN, TORONTO.



CITY HOSPITAL, HAMILTON.



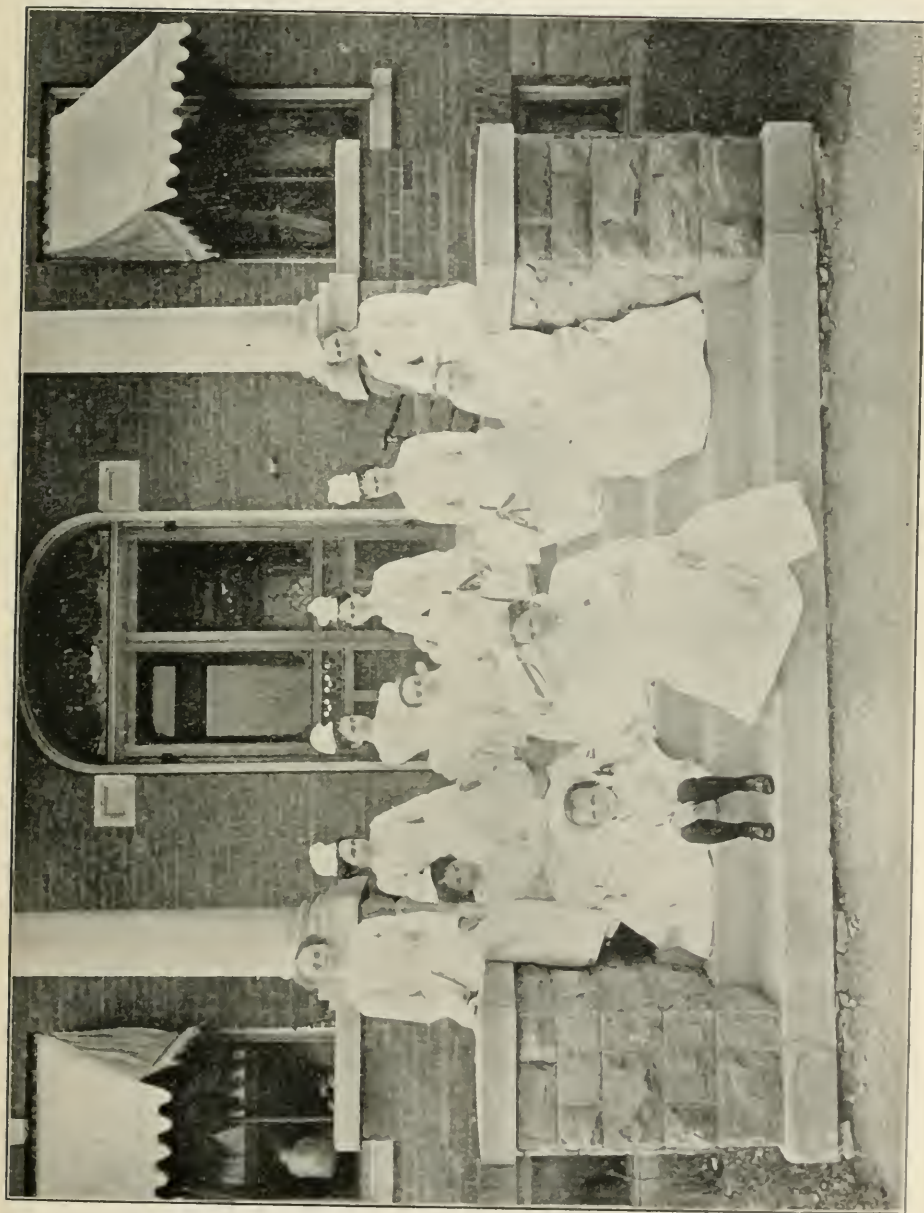
ST. VINCENT DE PAUL HOSPITAL, BROCKVILLE, ONT.



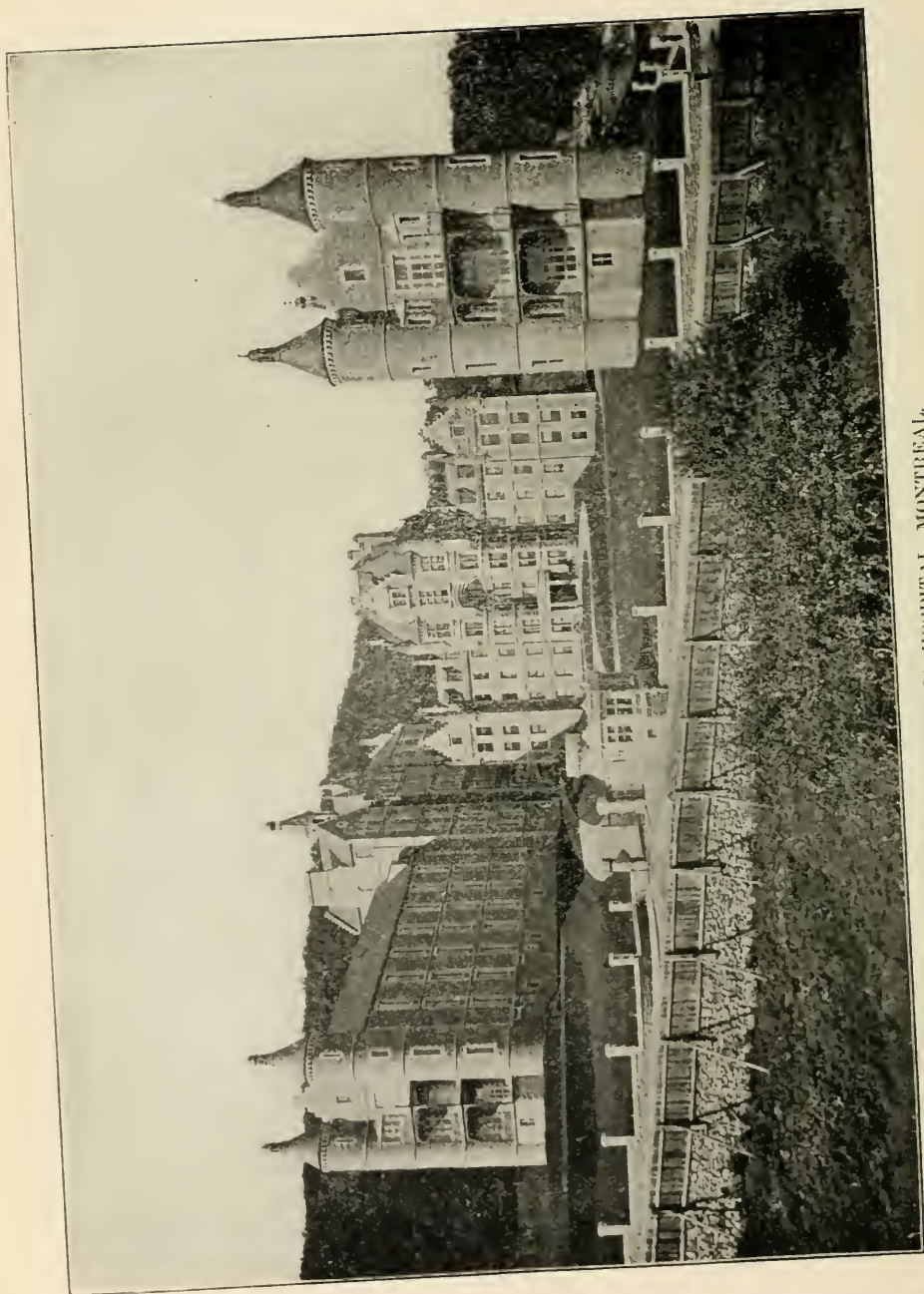
SCENE ON LAWN OF WOODSTOCK HOSPITAL.

MISS LORANE SMITH, LADY SUPT.

PRESENTATION OF DIPLOMAS TO NURSES GRADUATING FROM TRAINING SCHOOL, JUNE, 1900.



STAFF OF NURSES, WOODSTOCK HOSPITAL.



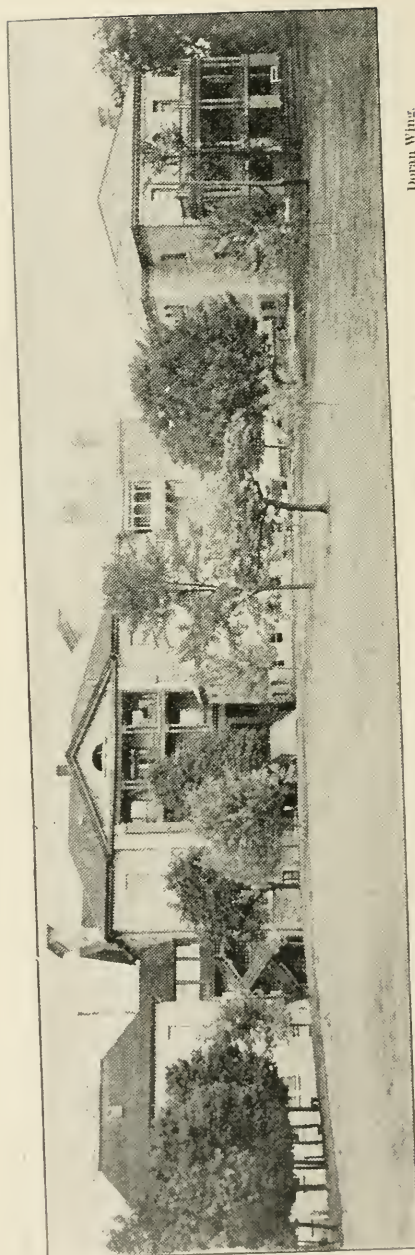
ROYAL VICTORIA HOSPITAL, MONTREAL.



HOSPITAL HOTEL DIEU, MONTREAL.



GENERAL PROTESTANT HOSPITAL, OTTAWA.



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Warkins Wing.

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Main Building.

KINGSTON GENERAL HOSPITAL.

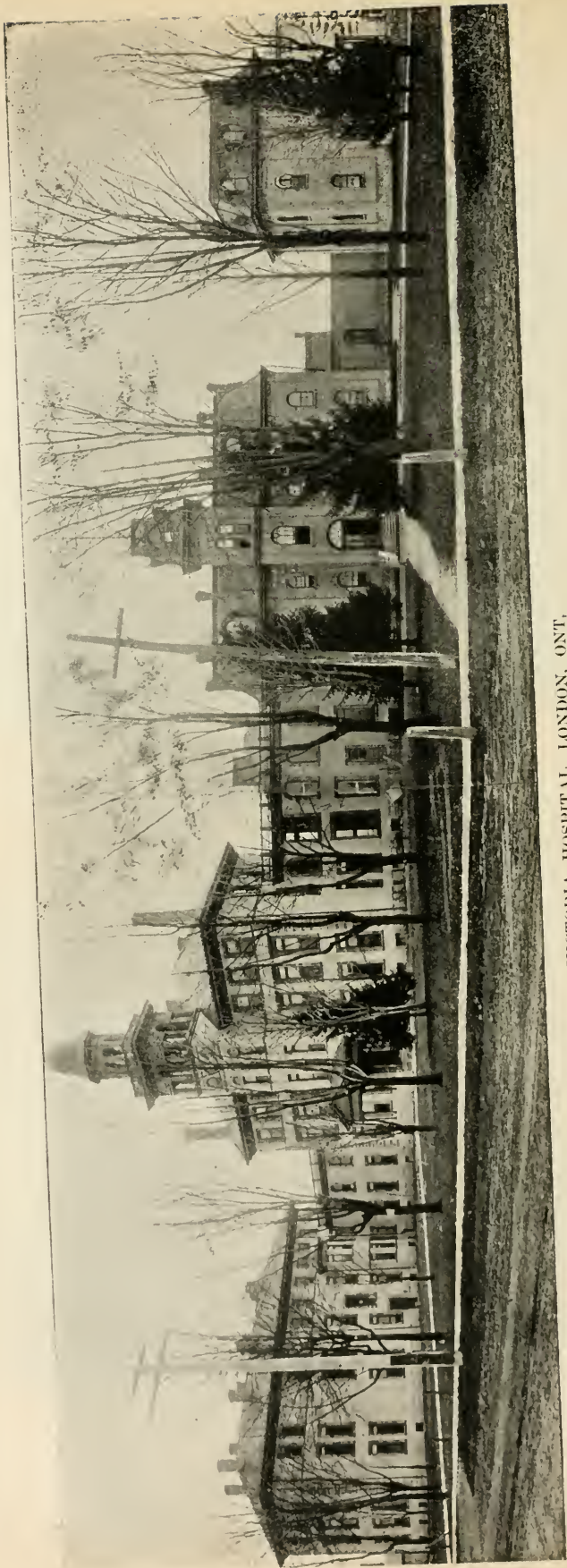
Nickle Wing.



Section of St. Andrew's Ward (Children).
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The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,

EDITOR,

69 BLOOR STREET EAST, TORONTO.

W. A. YOUNG, M.D., L.R.C.P. LOND.,

BUSINESS MANAGER,

145 COLLEGE STREET, TORONTO.

Surgery—BRUCE L. RIORDAN, M.D., C.M., McGill University; M.D. University of Toronto; Surgeon Toronto General Hospital; Surgeon Grand Trunk R.R.; Consulting Surgeon Toronto Home for Incurables; Pension Examiner United States Government; and F. N. G. STARR, M.B., Toronto, Associate Professor of Clinical Surgery, Lecturer and Demonstrator in Anatomy, Toronto University; Surgeon to the Out-door Department Toronto General Hospital and Hospital for Sick Children.

Clinical Surgery—ALEX. PRINROSE, M.B., C.M. Edinburgh University; Professor of Anatomy and Director of the Anatomical Department, Toronto University; Associate Professor of Clinical Surgery, Toronto University; Secretary Medical Faculty, Toronto University.

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the fifteenth of the month previous to publication.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the tenth of the preceding month.

VOL. IX.

TORONTO, JANUARY, 1901.

NO. 1.

Editorials.

RETROSPECT OF MEDICINE DURING THE NINETEENTH CENTURY.

Now that we must say farewell to the era of light and look forward to the unknown, a brief review of important discoveries in medicine during the last hundred years is in order. And as the field is very large, we shall confine ourselves to indicating some of the more notable discoveries and improvements in the domain of internal

medicine. But, even at the start, it must be acknowledged that medical science is under heavy obligations to men who were not physicians. Thus, at the dawn of the century, an English chemist, Humphrey Davy, discovered nitrous oxide, electrolysis, the metals potassium and sodium, and the miner's safety lamp, while in 1819 the laws of the phenomena of electro-magnetism were discovered by Professor Oersted, of Copenhagen, and shortly afterwards fully developed by a French chemist, M. Ampere. Later on, in the last half of the century, we shall see that the discoveries of another French chemist, Louis Pasteur, completely changed our notions of the origin of disease.

Though the remark may seem trite, it should not be forgotten, that in a paper published in 1798, Edward Jenner first made known the value of vaccination, and in the century that has passed since the first vaccination by Jenner, there has practically been little change, either in the method or the vaccine used—the only improvements being, that it has been found necessary to revaccinate from time to time, and that bovine virus has been substituted for the human variety.

The discovery of percussion belongs to a Viennese physician, Avenbrugger, who published a treatise about it in 1761. This new method of diagnosis was in advance of the age, and made no progress among physicians until it had been popularized in France through the advocacy of Corvisart (Napoleon's physician), who translated Avenbrugger's book into French, with additions of his own, in 1808.

In 1815, Laennec, a physician of the Necker Hospital, Paris, discovered that the sounds of the heart could be distinctly heard through a cylinder of paper held to the ear, and against the patient's chest. Later on he substituted a hollow cylinder of wood, which he named the stethoscope, and in 1819 published his remarkable work on mediate auscultation.

The influences of these new methods of physical diagnosis, together with the efforts of the experimental physiologists, Marshall Hall in England, and Francois Magendie in France, led to important changes in the treatment of disease, such, for instance, as the abandonment of blood-letting. To this end, also, the "statistical method" of Louis contributed, the idea gaining ground that the chief object of therapeutics is to assist nature in combating disease, and that heroic measures are often the least effective



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LAENNEC, INVENTOR OF THE STETHOSCOPE, AT
THE NECKER HOSPITAL, PARIS

means of accomplishing that end. As an evidence of the lack of ordinary accurate observation in medical study, which prevailed during the early part of the nineteenth century, it may be stated, that in 1833, the cause of itch (scabies) had been declared in a published medical treatise "to be unknown." In the following year (1834) Renucci, a Polish medical student, demonstrated to his master Alibert, a physician of Paris, the itch mite; but, in so doing, he was merely revealing to an educated physician the findings of uneducated Polish peasants.

In 1833, James Paget, interne in St. Bartholomew's Hospital, London, when dissecting the muscular tissues of a human subject, found little specks of foreign matter, which, when examined microscopically by Prof. Owen, proved to be the cocoon of a small and hitherto unknown insect, which was afterwards named by Owen *trichina spiralis*. The full story of *trichina* came long afterwards, when Leuehart, Virchow, and Zenken proved that this parasite enters the human system through the ingestion of infected pork, and that it causes symptoms which had erroneously been ascribed to typhoid fever, rheumatism, and other diseases.

In 1831, chloroform was discovered by Dr. Samuel Guthrie, of Sackett's Harbor, N.Y., and about the same time by Liebig, in Germany, and Soubeiran in France. Liebig also discovered chloral, and made important contributions to organic chemistry, showing the changes of food in the body, and what kinds of food are converted into fat, muscle, blood or sugar in the human system.

In 1835, Graves of Dublin recognized the connection between acceleration and violent action of the heart and enlargement of the thyroid gland, two of the great symptoms of exophthalmic goitre. Graves claimed that disturbance of the heart's action is not necessarily associated with organic disease of the heart. In 1840, Basedow, a German, published a more elaborate and more complete account of the clinical features of this disease. In 1837, a young American physician, Gerhard, showed the difference of the two fevers, typhus and typhoid fever. After much discussion, this question was finally settled in England by Sir W. Jenner in 1849-50.

In 1839, Dr. R. G. Hall, an English physician, published lectures on the management of asylums and treatment of the insane. He argued that in a properly constituted building, with a sufficient number of suitable attendants, restraint is never necessary, never

justifiable, and always injurious to all cases of lunacy whatever. Similar views were expressed in 1854 by Conolly of London, and were adopted by leading alienists in Europe and America. The important subject of medical jurisprudence made great progress during the past century. In England, A. S. Taylor, chemist and jurist, was appointed in 1831 lecturer in medical jurisprudence at Guy's Hospital. His inaugural course was the first given in England, and was attended by many leading counsel and some judges.

Parkes, appointed a physician of University College in 1842, may be regarded as the founder of scientific hygiene in England, and a great factor in its development elsewhere. As an organized department of administration, State medicine is entirely of modern growth, and may be considered as the peculiar property of the nineteenth century. Two centuries ago, the annual mortality of London is stated to have been 80 per 1,000; now it is under 20. A century ago ships could scarcely keep the sea for scurvy, while gaols and hospitals were, in many cases, hotbeds of fatal diseases. Now these conditions are rectified or, at least, the means of rectifying them are known.

In 1845, Hughes Bennett described leucocythemia and, simultaneously, Virchow gave a full explanation of the peculiar alteration of the blood, which is the essential characteristic of leucocythemia. In 1832, Hodgkin, who was pathologist to Guy's Hospital, described the morbid anatomy of the spleen and lymphatic glands. In 1837, the pathology of the kidneys was described by Richard Bright, the physician of the same hospital. In 1855, Thomas Addison described the relations between anemia and disease of the supra-renal capsules. These diseases are known all over the world as Hodgkin's disease, Bright's disease, and Addison's disease. To give other less important examples, the diagnosis and cure of favus, by J. L. Schoenlein in 1831, the discovery of the blue line round the edges of the gums in chronic lead poisoning, announced by Burton in 1840, and the treatment of lead poisoning with iodide of potassium, which was first noticed by Melsens in 1849, are instances of distinct advance on scientific lines during the past century.

The glorious discovery of anesthesia, a word which, by the way, we owe to Dr. Oliver Wendell Holmes, belongs entirely to America. However, when one reflects on the ever-

recurring need of a pain-dispelling remedy in dentistry and surgery, together with the historical facts that sulphuric ether (ol. vini dulce) had been discovered by Val Cordus in the sixteenth century, nitrous oxide gas by Humphrey Davy in 1800, and chloroform simultaneously by several chemists in 1831-32, the wonder



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WILLIAM T. G. MORTON

grows that the application of these agents to anesthetic purposes should have matured at such a leisurely pace. The first experiment in anesthesia was made in 1844 by Wells, a dentist of Hartford, Conn., who used nitrous oxide. His pupil, Morton, experimented successfully with sulphuric ether, and in 1846 anesthetized in Boston Hospital a patient upon whom Dr. Warren performed a

surgical operation. It is, however, true that Dr. Long, who practised in a small town in Alabama, had used ether successfully in several minor operations two or three years previous to Morton's final demonstration; but, neglecting to publish his discovery, was anticipated. A few months after Morton's demonstration the use of ether became general, and Simpson, of Edinburgh, chose chloroform as the more suitable drug. Opinions differ still as to this point; but of the transcendent value of anesthesia there is but one opinion.

For the demonstration of the truth that the etiology of disease is due to micro-organisms, the palm belongs to France. About 1830 great enthusiasm was manifested by physiologists in the minute forms of life described by Leeuwenhoek and other early workers. Prominent among these men were Cagniard Latour, a Frenchman, and the German of cell-theory fame, Theodor Schwann. Working independently, they had reached the conclusion about 1837 that the specks which make up the substance of yeast are living vegetable organisms, and that the growth of these organisms is the cause of fermentation. They also held, in a tentative way, the opinion that the micro-organisms to be found in all putrefying matter, animal or vegetable, had a causal relation to putrefaction. In France, the botanist Turpin supported similar views. On the other side, in 1839, Liebig promulgated his famous doctrine of fermentation, in which he opposed any "vitalistic" explanation of the phenomena of putrefaction, alleging that the presence of micro-organisms in fermenting and putrefying substances was merely incidental, and in no sense causal. In this conception he was upheld by his compatriot, Helmholtz. Louis Pasteur, a French chemist, however, in 1857 and the succeeding half decade, showed that all the familiar processes of decay in organic tissues are, in effect, forms of fermentation, which would not take place were it not for the presence of living micro-organisms.

Incidentally it may be remarked that the French surgeons of that day made no application of Pasteur's discoveries to their art. Even in 1870 the soldiers of Paris died of hospital gangrene. Dr. Lister (the present Lord Lister), then of Glasgow, began in 1860 to apply Pasteur's discoveries to surgery, and in 1867 published results showing that, if means are taken to prevent the access of microbes to abraded surfaces, and to destroy

those that had already found lodgement there, putrefaction would not take place.

Pasteur's studies also stimulated progress in pathology, leading Davaine to proclaim his belief in 1863, that anthrax was, as he said, caused by a "bacterium." Koch, in Germany, confirmed Davaine's views. But the convincing experiment was given to the



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CRAWFORD W. LONG

world in 1877, when Pasteur, with the aid of his laboratory assistants, Roux, Chamberland, and Duclaux, demonstrated that anthrax is due to the introduction into an animal's system of a specific germ, a microscopic plant, which develops there.

Since that epochal demonstration, microbiology has advanced rapidly, and the old-fashioned explanations of disease, viz., "hu-

mor," "miasm," "virus," etc., are no longer used. It is true that the microbe of every disease has not been discovered; but few of them remain unknown, and strange to relate, the failures have so far been noted in diseases whose infectious nature is undoubted, and in which contagion is best established. For instance, the ex-



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THEODOR SCHWANN

anthems—measles, scarlatina, small-pox, chicken pox, vaccinia—
infectious diseases of the skin, such as zona, and polymorphous ery-
thema, and diseases which are never transmitted except by direct
contact, such as syphilis and rabies.

When Pasteur produced, in 1880, an attenuated virus of
chicken cholera, capable, if used on poultry, of protecting them

from the infection of that disease, he stated that this method was susceptible of generalization, that is to say, of application to other diseases than chicken cholera. In 1881, he announced to the Academy of Medicine that he had produced an attenuated virus of the anthrax microbe, by the use of which he could protect sheep and presumably cattle against that fatal malady. The truth of this claim he demonstrated in the most public and convincing



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LOUIS PASTEUR

manner. He made the application of this principle to the human subject, although the method of attenuating the virus was different, when in 1883 he applied anti-rabic virus to the treatment of hydrophobia.

The cultivation of a virus within the animal organism, suggested by Jenner's method of securing small-pox vaccine, was a step in the direction of a new therapeutic procedure—serum-therapy. This is the treatment of a disease with the blood-serum

of an animal that has been subjected to protective inoculation against that disease. Facts observed in laboratories suggested the theory that the blood of resistant animals might contain something directly antagonistic to the virus, and that this *something* might be transferred, with curative effect, to the blood of an infected, susceptible animal.



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RUDOLF VIRCHOW

Definite results were announced by Behring in 1892 regarding two important diseases, tetanus and diphtheria; but serum therapy received its greatest impulse when Roux, of the Pasteur Institute, Paris, read his famous paper on diphtheria at the International Congress of Hygiene in 1894. He fully explained the laboratory methods of preparing the serum, and reported the clinical results obtained from its use in the hospitals of Paris. Since then serum-

therapy, especially in diphtheria, has been successfully practised all over the world. The antistreptococcic serum is also employed in the treatment of erysipelas and allied conditions. The anti-tetanic serum is regarded as a valuable accessory in the treatment of acute tetanus; but does not obviate the necessity for surgical and other modes of treatment. Ample proofs are to hand of the efficacy of Haffkine's prophylactic serum. Thus the use of this serum in the Khoja Mussulman community of Bombay caused a reduction of the mortality from plague amounting to 86 per cent. in the average. Calmette also speaks highly of Yersin's plague serum, as now prepared, and with it he claims to have reduced the mortality from plague at Oporto to almost nil.

Glandular therapy is also a notable addition to modern therapeutics. Thus thyroid extract has been admitted into the British pharmacopeia, and is a recognized remedy for myxedema, cretinism, psoriasis, and obesity. The supra-renal capsule comes next in importance; and although there may be some doubt as to its value in the treatment of Addison's disease, it has, in some cases, yielded very good results. It is the most powerful astringent known. The other members of this group, such as the thymus, pituitary substance, cerebral and spinal cord substances, are still on their trial, and it is difficult, in the present state of knowledge, to say what their future may be.

The rise and progress of pharmacology, which was founded by Bichat, early in the century, has made it apparent that all correct appreciation of the mode of action of drugs must be based on physiology and pathology. Fortunately for humanity, however, useful discoveries in pharmacology have been utilized, long before science has succeeded in adequately explaining the reason of their efficacy. Peruvian bark was received with disfavor by the profession, when first introduced to their notice in the seventeenth century, though subsequently its native merits caused it to be generally employed in malarial and typhoid fevers. In 1820, Pelletier and Coventon gave to medicine quinine and cinchonine, enabling physicians to employ the South American remedy in a more compendious and effective form. Yet the use of quinine in malaria was just as empirical as that of bark, and it is only recently that, owing to the labors of Macchiafava, Celli, Laveran, Golgi, and others, the true cause of malaria has been discovered, and the action

of quinine in destroying the plasmodium malarie in the blood of a malarial patient properly explained.

It is a long step from cure to prevention. Yet it did not require medical observation to prove that malaria ceased to appear, in certain localities, after the neighboring swamps and ponds had been drained. The brilliant work of Manson in England, Me-



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SIR JOSEPH LISTER

Callum in America, and Ross in India, by which the mosquito has been shown to be the bearer of malaria and the principal agent in its diffusion, showed also that land drainage prevented malaria, because mosquitoes disappear from a locality where they find no ponds or quiet water stretches in which to deposit their ova. The prevention of malaria even in tropical countries will result to a

greater extent than ever from the application of the simple deductions which flow from this great medical discovery. Other useful methods for quelling malaria will also be invoked. Thus in Greece it has been observed that the spraying of grape-vines with sulphur washes reduces malaria among the inhabitants, probably because sulphur is inimical to mosquitoes. For a similar reason malaria does not appear in a severe form in parts of Algeria, where intensive cultivation of a calcareous soil is practised, and, moreover, the application to the soil of manure rich in lime has been found to weaken the malarial virus.

These discoveries, so glorious to medicine, so useful to humanity, will doubtless prove the harbingers of still greater advances in the coming century. In concluding this sketch, a regret will intrude that Canada has not carved a name among the medical discoverers of the nineteenth century though we must congratulate our confreres on the fact that they keep well to the front in scientific knowledge, which they cult with avidity both at home and abroad.

May the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY, whose happy lot it shall be to write the psalm of scientific medicine at the close of the twentieth century, feel it incumbent on him to enumerate, in a special article, the achievement of Canada's sons in scientific medical discovery during that period.

J. J. C.

TYPHOID FEVER AND FOUL WELLS.

AT the fourth quarterly meeting of the Provincial Board of Health of Ontario for 1900, the Secretary read reports of the analyses of water supplies, taken from wells in different parts of the Province. The reports were of a very unsatisfactory nature, very few of the samples having been pure, and many of them having given evidence of fecal pollution.

According to Section 13, Schedule B (O. H. A.), "All wells in this municipality which are in use, whether such wells are public or private, shall be cleaned out before the first day of July in each year, and in case the Board of Health certifies that any well should be filled up, such well shall be forthwith filled up by the owner of the premises."

Although the above enactment is in force in every municipality

of the Province until repealed, it is "more honored in the breach than the observance," since contaminated wells appear to be so common. Even the most civilized men and women seem to require strong object lessons, to impress them with the necessity of cleanliness in the storing of food, and its subsequent preparation for the table. Putridity has its compensating advantages, in preventing people from using what is offensive to the senses. Well water, beneath its benign glimmer, often conceals a world of sanitary iniquity; but, if it should make no strenuous appeal to the senses, it is swallowed without objection. Occasionally water from a well becomes offensive, and the source of supply, on examination, yields results that are ludicrous and even alarming. Thus, *Le Memorial des Deux Seves* (September 24th) reports: "After the prolonged drought of last summer, Mr. ——— resolved to have his well cleaned, the water being no longer good. Accordingly, a laborer went to the bottom of the well, and found there two hundred and ten toads (this number being verified by credible witnesses), which of course would explain the spoiling of the water." In this case, it goes without saying, that Mr. ——— did not require a legal enactment to oblige him to give an order for the removal of the mortal remains of the batrachian intruders. There are doubtless wells in France and Canada, which are badly constructed or not kept in repair, and rarely cleaned, and yet, only the presence of decaying filth or some sensible spoiling of the water, will call for an investigation.

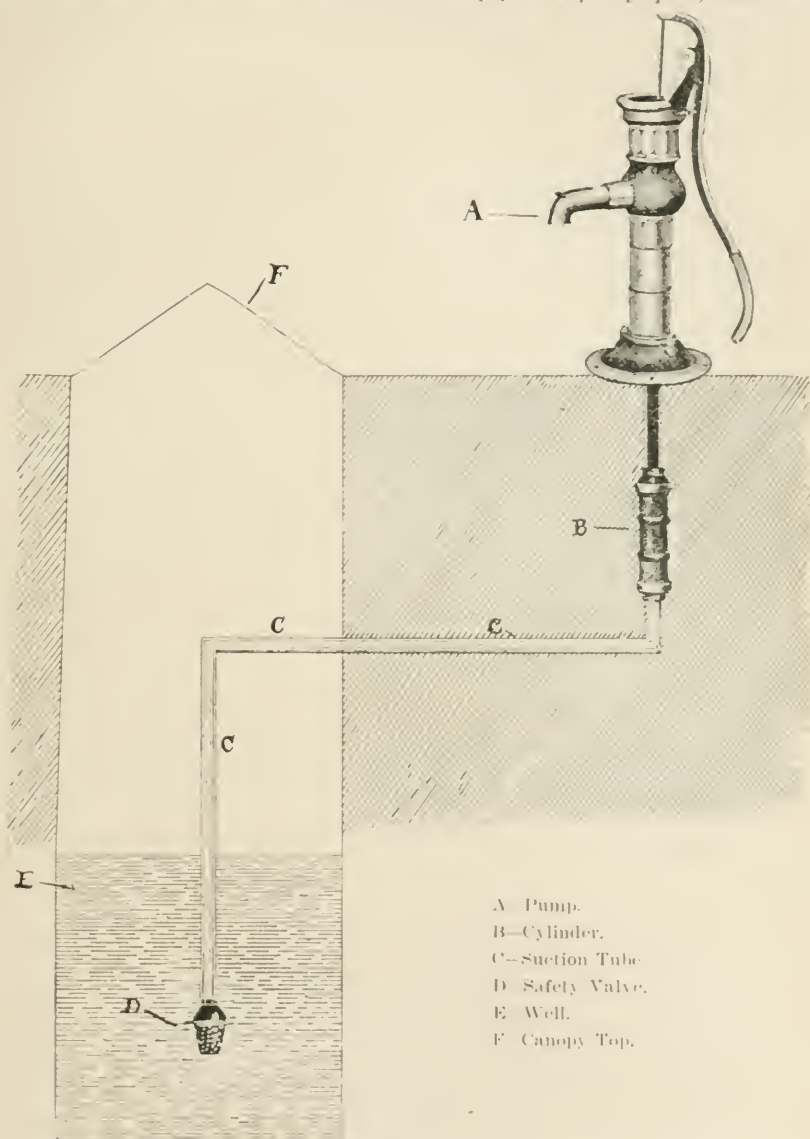
Many wells, particularly in the country districts, are to some people at least, invested with a halo of romance, and an investigation into the purity of their water seems like positive desecration of something holy. After typhoid fever has attacked the members of a household, a sample of the water supply is sent to a laboratory, with the request that the typhoid bacillus be looked for. More easily said than done. The Eberth bacillus, which is recognized as the efficient cause of enteric fever, has been sought for in the sewage of London by competent bacteriologists, and not found. It is, however, an easy task to identify the colon bacilli, which inhabit the intestinal tracts of man and animals, and, when found in a sample of water, they indicate fecal pollution of the well, from human or animal sources. The presence of colon bacilli in a sample of well water, together with a relatively large proportion of chlorine, indicates a source of constant animal pollution, such

as may be derived from a privy or a barnyard, and in order to properly estimate its influence in causing typhoid fever, the source of its contamination should be traced. In another sample, the presence of colon bacilli, associated with a proper proportion of chlorine, indicates a source of occasional animal pollution, such as may trickle through the open joints of the platform of a well, much frequented by people wearing shoes soiled by manure, or perhaps by animals. A supply like the latter might simply require a cleaning of the well, and a refitting of the platform, with the addition of a layer of blue clay or cement placed around the top of the well. A well, plainly contaminated with fecal matter, should however, be closed, and the reason for taking such action may be illustrated by an example, which also throws light on the evolution of typhoid fever among near neighbors.

At S——d, a town in Ontario, several families lived on adjoining small lots, each lot being provided with a well and a privy pit. The top soil was clay, beneath which was a layer of water-bearing gravel, and at a depth of eight or nine feet, a substratum of blue clay. The privies were near the wells, in some cases about twenty feet away. With such a substratum the wells would be shallow, and intercommunication would take place between privies and wells. This was subsequently proved to be the case, a chemist who examined four different samples of water from these wells reporting that "they all contained sewage matter, and were unfit for drinking purposes." Consumption of such water had, however, continued all summer, and yet no case of typhoid fever occurred. In September, a member of one of the families, who had contracted typhoid fever at his last residence, returned home and fell ill in one of the above-mentioned houses. His excreta were thrown into the privy pit belonging to the house, and doubtless soon found their way by percolation into the water-bearing stratum of earth above the blue clay which supplied the neighboring wells. Typhoid fever appeared in the following month (October) among the inmates of these houses, and in a short time became endemic, several deaths occurring.

There was good reason to think, therefore, that the shallow wells used by these families drained the privies, and that the water, though polluted by this sewage, had not caused typhoid fever until it was contaminated by the dejecta of a case of that disease. Therefore, the cleaning of these wells would not have removed the

danger of infection as long as the drainage from the privies found an entrance into the wells. The principal recommendations given to arrest the outbreak were: "to empty the privy pits, disinfect



them, and then fill them with earth, substituting the dry earth closet; that pure water be obtained for drinking purposes; and that, until it has been obtained, the water used for drinking purposes be boiled and filtered."

The tubular or driven well has certain obvious advantages over the open well, in not occasioning accidents to children or animals. A perforated iron tube, with a sharp, hard point, is driven into the ground, other lengths of tube are then attached and driven down, and the process is repeated till water is reached. A pump is attached, and around the pump there should be a close, tight-fitting platform.

Such a well, pump included, can now be had for ten dollars. It should be emptied at frequent intervals and the pump kept clean. To remove all danger of infection of the water supply a good plan is to substitute the earth-closet for the privy pit, or better still, to provide sewers for the removal of the sewage. If the well, whether it be a tubular well or a pit well, is sunk into a stratum where the water is free from pollution, the consumer will be saved from a domestic source of typhoid fever. The convenience of his family will be enhanced, at only a small increased outlay, by placing the pump of the well in the dwelling instead of out of doors at the well. This will be seen in the accompanying diagram. J. J. C.

EDITORIAL NOTES.

The Smoke Nuisance.—The following directions to stokers, to be found at page 59 of Mapother's Lectures on Public Health, indicate in a practical way the means which must be adopted if the smoke nuisance from factories is to be effectually prevented. (1) No black smoke ought to issue from the chimneys of the furnaces. (2) To prevent this, when charging the furnace push most of the red coal to the back of the furnace, and spread the remainder evenly to a depth of not less than three inches, and place the fresh fuel upon the red fire nearest the door. (3) The pieces of fresh fuel must not be larger than the fist, nor added in such quantities as to choke the furnace, as this prevents a sufficient quantity of air from entering, and thereby wastes the fuel and causes smoke. (4) If black smoke issues from the chimney of the furnace, it must be your fault, and a fine will therefore be inflicted. When however, it does occur, open the furnace door, stir up the black coal, and bring it in contact with the red fire." We commend these excellent rules to the consideration of the civic authorities of Toronto. From a parliamentary investigation of the smoke mis-

ance in England, it appears that when soft coal is burned, special care on the part of the stokers will prevent the black smoke nuisance. The use of anthracite will prevent it altogether. The devices which have been introduced to the notice of the public with the object of preventing or mitigating the black smoke nuisance do not find favor with the stokers, and are not methodically used.

An Acknowledgment.—We take pleasure in acknowledging the loan, for use in this number of the JOURNAL, from Messrs. Harper Bros. & Co., of New York City, publishers of that very excellent magazine, *Harper's Weekly*, of the seven half-tone cuts which appear in connection with the editorial, "A Retrospect of Medicine during the Nineteenth Century." We feel sure that our readers will appreciate the courtesy on the part of Messrs. Harper Bros., the illustrations certainly enhancing the value, as also the general appearance, of the article in question. We notice that just recently Harper Bros. published a most interesting book, "The Story of Nineteenth Century Science," which touches upon all the important branches of science, explaining their most complex developments in a manner that, while being thorough, is within the comprehension of the average layman. It not only brings one up to date in all the marvels of electricity, medical and physical science, and natural phenomena, but it gives us an inkling as to how the savants were led to experiment, and adds most interesting sketches of the men who have made themselves famous by their researches. No other work has made so thoroughly scientific a study of the scientific achievements of the century, and stated the results in so lucid and convincing a manner. The many portraits, reproductions, diagrams, and original illustrations in the volume make it additionally valuable.

A Biological Laboratory at Ottawa.—From time to time disquieting reports in the daily papers show that bubonic plague is hovering about this continent. For instance, the subjoined extract was recently culled from the Ontario correspondence of *The Globe*: "The weekly official health reports of the United States just received recognize for the first time the existence of bubonic plague in San Francisco. Nineteen cases have been reported since March last, the most recent being October 5th, 10th, and 14th. The authorities appear unable to learn of the cases until after

death, as all the recent cases are so reported." We learn from *The Sanitarian* that the New York City Board of Health has provided a special laboratory, built for, and wholly devoted to, the study of the germs of plague. We hope that the Director General of Public Health for Canada will deem it his duty to make such representations to the Canadian Government, that a laboratory of this kind shall be established at Ottawa.

A Free Sanatorium for Consumptives.—At the time of writing it seems quite likely that the ratepayers of Toronto will not be asked to vote for a by-law to raise \$50,000, wherewith to provide a free sanatorium for consumptives. The National Sanitarium Association offer to establish, in proximity to their present sanitarium for consumptives at Gravenhurst, a free institution for the treatment of curable cases of consumption, leaving for subsequent arrangement the location of a receiving hospital to which advanced cases may be admitted for tentative treatment, as well as providing a home for incurable cases. The Gravenhurst free sanitarium would then be available for the poor consumptives of Toronto, on the payment by the city corporation of the usual hospital allowance, viz., 40 cents a day, which, being supplemented by the Provincial grant of 30 cents a day, would make a total of 70 cents per capita.

Our Colored Supplements.—We are greatly indebted to the firm of H. K. Mulford & Co., of Philadelphia, Pa., for the beautifully executed colored plates which appear in this issue of our journal. We feel certain that everyone will admit that, for delicacy in coloring, beauty of execution, and absolute correctness in even the minutest detail, the illustrations could not be improved upon. The gradual disappearance from day to day of the diphtheritic exudate under the influence of diphtheria antitoxin, is certainly only true to fact, and but illustrates what occurs in the every-day experience of the physician who resorts to the use of what is now looked upon as the *sine qua non* in the treatment of this otherwise terrible disease. The three-color reproduction illustrating the "Cycle of Vaccination," is also most beautiful. We are glad to have the opportunity of presenting these plates to our readers, as they will appear in no other journal in the Dominion.

Inoculation Against Typhoid Fever.—Owing to the wide prevalence of enteric fever during the South African campaign, great efforts have been made to protect military men against that disease by inoculation. We notice in the *British Medical Journal* that two special Commissioners sent to Africa to investigate dysentery and its relation, if any, to enteric fever, were inoculated against typhoid previous to their departure. We have not heard that preventive inoculation has been attempted in Ontario; but seeing that the disease in question is fairly prevalent in this Province, it would be a useful scientific work to practise inoculation against typhoid of the class of young men who graduate each year from Toronto University and Trinity University.

Employment for Consumptives.—While a good deal of attention is devoted to the treatment and cure of consumption in sanatoria, and while some progress is being made in Ontario in that direction, no public provision is made for dealing with patients who have been cured or partially cured of consumption, after they leave the sanatorium. To find suitable employment for these people will be a matter of great importance, if their former conditions of life and labor were unfavorable to health. Agricultural work of all kinds, and out-door occupations, would be unobjectionable. As land in Ontario is cheap, the establishment of a fund to provide the cured consumptives with the means of gaining a livelihood by market gardening or farming, is worthy of the consideration of philanthropists.

DR. ADAM WRIGHT is still improving.

DR. B. E. MCKENZIE visited New York last month.

DR. CHAS. HODGETTS has removed from College Street to Spadina Avenue.

DR. D. C. MEYERS has given up his office on Simcoe Street, and has decided to concentrate his work at his Sanitarium in Deer Park.

DR. W. H. B. ATKINS made his usual fall trip to New York in the interests of *The Canadian Practitioner and Review* last month.

CONGRATULATIONS are in order. Dr. Geo. A. Peters assumed the serious responsibility of becoming a dad on the 12th ult. Unto him a child was born.

DR. MONTIZAMBERT, Director General of Public Health, has returned from an extended trip to the West in the interest of the health of the Dominion.

Selected Articles.

BRONCHITIS—ITS TREATMENT.

ACUTE bronchitis is best treated by rest in the house, preferably in bed, and the use of diaphoretics. Thus, an acute cold may be often cut short by 10 grains of Dover's powder at bedtime, or by a grain of opium in any other form. Diaphoresis is often pleasantly and profusely excited, simply by warm drinks, especially if preceded or followed by a warm bath. Common green or black tea taken hot and in quantity is a diaphoretic as effective as any of the nauseating teas or infusions of the materia medica. In the acute bronchitis of childhood the warm bath plays the most important role if given three or four times in the course of twenty-four hours. It is nearly always followed by peaceful sleep. Should diaphoresis fail, the treatment becomes purely symptomatic. In relief of the cough, appeal is made to the expectorants. Chief among the expectorants in our day ranks apomorphine. A good prescription for a child is:

R Apomorphine hydrochlorat.....	gr. ss. to gr. j.
Acid. hydrochloric. dilut	gtt. x.
Syrupi	f $\frac{3}{5}$ ss.
Aque menthae piperita	f $\frac{3}{5}$ iss.—M.

Sig.—A half to one teaspoonful every two hours.

Apomorphine is a very soothing expectorant, which acts like an anodyne, and, as has been proved by experiment, has real virtue as an expectorant. In bad cases of cyanosis and dyspnea, the remedy is best used subcutaneously in doses of 1-12 grain, increasing the dose if necessary. Ipecac, in wine or syrup, is a time-honored remedy, and especially in the form of the compound mixture, has a wide range of use. One grain of tartar emetic dissolved in a glass of cold water, of which a teaspoonful may be taken every hour, is an old and useful remedy. When the cough becomes more severe, and especially if it be associated with much pain, the necessity arises for the use of morphine, which may be incorporated with the apomorphine in the prescription above cited. Or the opium may be given in tincture, simple or camphorated;

under no circumstances, however, should morphine be given to children. For an adult a prescription might read:

R Morphine sulphatis..... gr. j.
 Aquæ lauro-cerasi f ʒ ij.
 Aquæ q. s. ad f ʒ ij.—M.

Sig. —A teaspoonful every two, three, or four hours.

The same relief, without risk, may be reached in children by the substitution of belladonna, which may be given in the form of a tincture, in a dose of one drop for every year of the child's age. A few dry cups applied to the surface of the chest give great relief from pain at any age. Wet cups succeed when dry cups fail. Flying synapisms often suffice. Where pain is very severe, in exceptional cases, especially in childhood, a poultice may be put about the chest. For fever, there is no remedy as good as quinine, which supports the heart, while it attacks the fever. Many individuals learn to cut short a cold by a single dose of ten grains of quinine, fortified with a drink of hot whisky, and whisky or brandy is always a safe remedy to give to a child, with a small dose of quinine—not over five grains. Relief from fever is also given by the other antipyretics, such as antipyrine, which may be given to an adult in a dose of from 3 to 5 grains; to a child, 1 to 2 grains; antifebrin, in the same dose, or phenacetin in double the quantity. Phenacetin is the safest remedy. None of these drugs act so well in childhood as the warm bath, and where bronchitis has become capillary, or dyspnea assumes prominence, or actual cyanosis has occurred, no remedy ranks in value with the hot or warm bath and cold affusions to the head and chest while in the bath. Juergensen has shown that a small stream of cold water directed to the nape of the neck will cause deep inhalations. A debilitated child will require an additional stimulation in the form of senega, carbonate of ammonium, caffeine, or digitalis. One drop of the tincture of digitalis every hour or two is at times invaluable.

The treatment of chronic bronchitis varies more with the intensity than with the character or form of the disease. It is usually made a very long chapter, but the remedies which are of real value are few. Prophylaxis is the subject which merits discussion first. As has been remarked already, bronchitis is the most frequent of all diseases, and the greatest contingent of cases occurs in childhood. When we regard the manner in which children are reared in closed apartments, with defective ventilation, too warmly clad, for the most part not regularly bathed, in the ill-heated, ill-ventilated habitations that constitute what is known as the house-climate, it cannot be wondered at that bronchitis, a disease which results from inhalation of contaminated atmosphere, is so frequent.

We have also to regard here, as well as in the case of adults,

the frequency of tuberculosis, which has bronchitis as its forerunner for months, and as its companion for life. Rickets, too, is a disease which belongs to childhood, and which has bronchitis as one of its prominent and more or less constant symptoms. These three causes—vitiating house-air, tuberculosis, and rickets—account for the large majority of cases of bronchitis. In children, bronchitis belongs, therefore, to those who are debilitated or diseased, and the factor of supreme importance in childhood is prophylaxis. It is needless to say at this age that a house can be well ventilated, that sunlight and fresh air may be freely admitted, that the temperature may be regulated, that the house may be kept dry. It goes, also, without saying that children affected with tuberculosis, rickets, and syphilis, must be treated for these diseases. Phosphorus, iodine, creasote, cod-liver oil, iron, quinine—these agents belong as much to prophylaxis as to treatment. Then comes the cold bath. Weak and debilitated children and adults are best inured by baths which should be warm at first, then tepid, cool, and even cold, with brisk friction to the skin until the surface is brought to a glow, the perfection of the reaction being the indication of the grade of temperature for the next bath. Fresh air, exercise, a shorter stay in school, a better ventilated school-room,—here is a subject which requires a chapter of itself. The regulation of clothing, the avoidance especially of heavy underwear, of mufflers and comforters about the throat, the exposure of the body until it becomes hardened like the face—these are means which must be adopted gradually, that the body may become finally inured and, as it were, insured against bronchitis. A subject which deserves continued emphasis is the destruction of the sputum, which often conceals the most dangerous parasites. Old men are best protected by avoiding vicissitudes of temperature, especially as connected with moist or windy days. On cold, wet days the old man should remain at home in his room—in the chimney corner if not in bed. The circulation of the old man is to be sustained by another meal if necessary, later in the night, by wine, brandy, or an extra cup of coffee or tea. Senile bronchitis may be avoided also by change of climate. Individuals whose circumstances will permit should seek the warm, moist climates of Florida, Southern California, the Bermudas, Nassau, or the dry, warm climate of Central Florida, Georgia, Aiken, Asheville, and the Carolinas. Chronic bronchitis requires more continuous treatment. In the dry form of chronic bronchial catarrh, exudation may be furthered or forced by inhalations. The agent of most value in these inhalations is steam, and it is best generated by a steam atomizer. Simple atomizers without heat are of no value. The steam is given more additional solvent powers by the use of common salt, more particularly the bicarbonate of sodium in satur-

ated solution, or disinfectant properties with carbolic acid, thymol, or boric acid. In capillary bronchitis steam is a necessity. Where the discharge is excessive, in bronchorrhea, the best remedy is turpentine, which should be given in the form of capsules, containing from 5 to 10 drops.

Capsules of turpentine are swallowed without taste in milk, or five to ten drops of turpentine may be dropped into a wine glass of milk. Finally, turpentine may be smoked for a long time in a pipe. Here, however, there may be evidences of idiosyncrasy, such as slight cerebral disturbance and vertigo. A good substitute in these cases, or in any case, is terpin hydrate, which may also be given in capsules, 5 to 10 drops, or in pill, 1 or 2 grains, three or four times a day. The balsams of Peru, tolu, copaiba, and sandal wood, have virtue in individual cases. Cod-liver oil is food as well as medicine. The great trouble, however, with this otherwise valuable medicinal agent is the fact that it is, as a rule, not long before the patient's stomach becomes upset and refuses to digest any more of the oil, the appetite being interfered with in a manner which very soon, instead of building up the patient, has the opposite tendency and effect. There is a preparation which has recently been largely used by the profession with success, Angier's petroleum emulsion. It has been found to be very useful in relieving the cough and diminishing the expectoration in cases of chronic bronchitis. It is a smooth, cream-like emulsion of purified petroleum, combined with the hypophosphites. It is pleasant to take, has no disagreeable taste or odor, and is frequently, therefore, accepted by the most delicate stomach. This emulsion acts as an intestinal antiseptic, preventing fermentation, and under its action the patient frequently shows a gain in weight and strength.

Many cases yield only to the prolonged use of iodine, which is best given in the form of the iodide of potassium or sodium, in peppermint water, or in the ounce-to-ounce solution, beginning with from 10 to 20 drops three times daily, largely diluted with milk. Its action is best suited to the cases complicated with asthma or dyspnea. The best prescriptions for chronic bronchitis owe their virtue chiefly to the iodine they contain. Putrid bronchitis requires antiseptics, which may be inhaled from the atomizer, as suggested above. Terpin hydrate is here also of value internally. A most excellent remedy recently recommended is myrtol, which should be taken internally in doses of 5 or 6 grains. Myrtol acts through the blood: it may also be inhaled. It lessens the excessive quantities of sputum in putrid bronchitis or bronchiectasis, diminishes the offensive odor or destroys it altogether, and often in the course of a few days puts a new phase on a disease which has hitherto assumed alarming gravity. Bronchiectasis has no special therapy.

No drug can restore tone to or contract the dilated bronchial

walls. The treatment is the same as that for chronic bronchitis, and more especially for putrid bronchitis, whereby disinfectant inhalations, more especially of terpin hydrate, menthol, and myrtol play important parts. As has been intimated, the diagnosis of bronchiectasis, or its differentiation from cavities in the lung from tuberculosis is by no means easy. Moreover, inasmuch as these cavities are scattered throughout the lungs, there is none of that hope from surgical intervention which might be entertained were the affection local. In all cases of chronic bronchitis, especially where chronic organic changes have occurred in the bronchial walls, such as excessive hypertrophies, atrophies, decompositions of their contents, and ectasias, there is necessity for support with alcohol. Senega and serpentaria are considered good substitutes for squill, ipecac, and antimony in the debility of age. The carbonate of ammonium, best given in milk, is a remedy of value in advanced life or *in extremis*. The Germans have an anisated solution of ammonia, which is a good preparation. Apomorphine is safe, quick, and pleasant. A remedy which is of signal virtue in the chronic bronchitis of the aged, in the capillary bronchitis, which may not be separated from catarrhal pneumonia at either end of life, more especially in the chronic bronchitis of old age associated with heart failure and kidney suppression, is nitro-glycerin, of which 1 or 2 drops of a 1 per cent. solution may be given every hour or two; or, to bridge over a sudden collapse, subcutaneously in doses of 1 to 5 drops.

To sum up the therapy of bronchitis, the best remedy in treatment of the bronchitis of childhood is hydrotherapy; the best remedy in the treatment of the acute bronchitis of maturity is diaphoresis; for chronic bronchitis, the discovery and treatment of its cause, whether tuberculosis, emphysema, heart disease, or disease of the kidney; the best remedy for senile bronchitis is support and change of climate.

CHLORETONE A SAFE HYPNOTIC.

BY W. M. DONALD, M.D.,

Lecturer on Practice, Detroit College of Medicine.

OF the making of new drugs and new pharmaceuticals there is no end. The graduate of twenty years ago has to learn his materia medica over again. It is true that we have the old standards with us yet—iron, quinine, mercurials, bitters, etc.—but the refinement of pharmacy is bringing into the field a host of elegant and palatable compounds of which our forefathers never dreamed.

The busy chemist, too, like the busy bee, improves each shining hour, and makes, not honey, but synthetic compounds which grow

in number in an ever-widening circle. Hypnotics and analgesics, anesthetics and antiseptics, have received much attention from these industrious gentlemen, and a number of compounds of considerable value have been evolved and placed before the medical public.

One of the latest candidates for popular favor is a compound which is manufactured in the laboratory of Parke, Davis & Co., and which is said to contain within itself the qualities of a hypnotic, analgesic, anesthetic, and antiseptic, and which bears for its baptismal name Chloretone, or trichlor-tertiary-butyl alcohol. This substance is made by the addition of caustic potash to equal weights of chloroform and acetone, and occurs in white crystals with the odor of camphor. It is but slightly soluble in water, though easily dissolved by the stronger solvents—alcohol, ether, etc. It is consequently recommended that for internal administration it be given in tablet form.

While possessing the qualities of which we have spoken, the discoverers specially recommend it as a hypnotic and local anesthetic, claiming for it freedom from depressing after-effects, and a high degree of safety even when administered in large doses.

The writer has experimented with this drug as a hypnotic in a number of cases with varied pathological conditions, and has found it to be of considerable value in well selected cases and with moderate doses—ten to fifteen grains, repeated in the same doses within two hours if necessary. While it has been found of considerable value, as has been said, sufficient time has not yet elapsed to determine its true value relatively with the other hypnotics, nor to give it its true place in the *materia medica*.

Were it not for a case of exceedingly large dosage which recently came under the author's observation, it would not have been deemed advisable as yet to publish any of his inexact and incomplete experiments. This case, however, seems to demonstrate so well the harmlessness of the drug in large doses that it has been considered advisable to publish a report of the case.

A short time ago the writer had under his care a young man of brilliant parts, who had become a victim of the morphine and alcohol habits. He had indulged secretly in both drugs for a number of years, and was fast becoming a physical and mental wreck. An effort was made to cure him of his habits by placing him in a suitable environment and by withdrawing the drugs as rapidly as the case would permit, his strength being maintained in the meantime by a tonic and dietetic regimen. Considerable difficulty was experienced in producing sleep, and resort was had to the bromides, trional, and chloretone, all of which acted fairly well.

While progressing satisfactorily in regard to the drug habits, numerous abscesses developed in different parts of the body, which on evacuation freely discharged thick, fetid pus. These were no

doubt primarily caused by old indurations following the use of infected hypodermic needles, but seemed to become metastatic later on in the course of the case. They were exceedingly depressing to the physical organism of the patient, and naturally very discouraging and disheartening to him in his unstable mental condition. To the pre-existing difficulty in sleeping was added that consequent upon the pain and depression of the abscesses. In a moment of great discouragement the patient secured a liberal supply of three-grain chloretone tablets, and determined to have sleep and rest at any cost.

On Saturday night, August 10, he took twenty-four grains, which gave a fair night's rest. He breakfasted Sunday morning, returned to bed, and during the day took four doses of twelve grains each, or forty-eight grains in all. After a day of almost steady sleep he awoke and drank a glass of beer, although showing evidences of being under the influence of some narcotic. He immediately returned to bed and took twenty-four grains more within an hour and a half. One hour afterwards, being now delirious, he took another twenty-four grains, making a grand total of 120 grains taken during the twenty-four hours! The following morning he was so profoundly asleep that he could be roused with great difficulty. He would articulate a word or two and then immediately drop off into deep sleep again. All food was refused, but water was taken greedily, the patient rousing at intervals sufficiently to walk to the bath-room for a drink and also to secure a movement of the bowels and passage of the urine. During the night he vomited considerable bilious matter, soiling his bedding and clothing. The next day (Tuesday) found him still more profoundly asleep, with involuntary passages of feces and urine, and with absence of the thirst of the day previous.

He was walked about the floor by an attendant, and while his power of locomotion was good, his co-ordination was badly impaired, so that he was with difficulty prevented from falling. During the night his condition was unchanged, but on the following morning (Wednesday) he showed symptoms of improvement. He could say a few words in answer to questions upon being thoroughly shaken, and was able to go to the bath-room alone to evacuate some watery stools. He drank a pint of coffee and milk during the day, and was given an alternating shower of hot and cold water during the evening. The cold water aroused him sufficiently to plead for a discontinuance of it, and yet he was at this time, as he had been since Sunday evening, unresponsive to mild pain, such as pin-pricks, pinching, etc. In other words, he was under the influence of a general anesthesia of a mild nature.

During this time an abscess was opened upon his leg without any evidence of sensation on his part.

The patient slept soundly Wednesday night, and on Thursday

morning was roused with ease, although he immediately fell asleep again if conversation was stopped. He talked with great difficulty as if the muscles of the tongue and larynx were paralyzed. The articulation was so bad that at times he could be understood only with an effort. He took some light nourishment in the morning, and then dressed himself, but immediately lay down again upon the bed and slept the greater part of the day. In the evening he took a hot bath alone, ate some light refreshment, talked and joked for an hour, and then went to bed and to sleep for the night. On Friday morning he ate breakfast and dressed, but felt very weak, and lay dosing most of the day. During the night he slept poorly, and by Saturday morning began to crave something as a nerve sedative again. His stomach was irritable, and refused all but the lightest food, this symptom being prominent during all his period of narcosis.

From the time observations were begun—viz., on Monday morning—till he regained full consciousness on Saturday morning, there were absolutely no untoward symptoms except the gastric irritability mentioned before. The pulse ranged from 85 to 104, and was at all times of fair quality, except when toward the end of his long sleep he showed the irritable pulse of exhaustion. The respirations seemed somewhat deepened, but were normal in number, quality, and rhythm; temperature became, toward the end of the sleep, subnormal from exhaustion, the last record being 97.6 degrees F.

Sleep lasted almost continuously from Saturday evening till the following Saturday morning. During all this period, except when roused for nourishment or for a bath, etc., there was complete oblivion. When aroused the patient became partly conscious of his surroundings, and afterwards referred to incidents happening during these periods of intermission of his hypnosis.

The gastric irritability was undoubtedly caused as much by the fasting as by the drug, although the latter must be blamed for its fair proportion of it.

That chlorotone is a hypnotic, five or six days' sleep from the administration of the drug will testify; that it is a *safe* hypnotic this period of sleep from the use of 120 grains of the drug, with no bad nor untoward effects, should be ample evidence.

I must acknowledge in conclusion valuable notes and observations of the case made by my student, Mr. W. R. Hanes.—*Thera. Gazette*, January 15th, 1900.

A CASE OF URETHRAL FISTULA CURED WITH MERCUROL.

BY B. A. ARNOLD, M.D., FREEPORT, ILLINOIS.

It is generally conceded that the salts of mercury, particularly the corrosive chloride and the red iodide, are the most powerful antiseptics and germicides that we possess. An effective germicide, as Bartholow says, "is destructive not only of the organism, but of its ova. Experience has demonstrated that the germ—the microbe—may be killed and yet the ova resist the action of the germicide, and hence pullulation goes on as actively as before. No antiseptic is entitled to be so designated, unless its power is equal to the destruction of the organism, and of its ova also."

Unfortunately, the use of mercuric chloride and mercuric iodide is attended with a number of objectionable sequences that are practically insurmountable. The chief of these are the decidedly irritating effect of both salts upon the living tissues, and their well-known coagulating effect upon the albumins. The former difficulty may be partially overcome, it is true, by excessive attenuation, although at the risk of sacrificing germicidal power: the latter cannot be so lightly disposed of. It is probable that the first effect of mercurial chloride upon a microbe is coagulation of its albuminous cell-wall, for structurally a microbe is only a tiny cell of special form. In that manner the microbe becomes invested with an impervious coat of coagulated albumin, which effectually protects its self-contained spores from the destructive effect of the germicide.

That was an auspicious mental effort which gave birth to the most available mercuric germicide yet produced—I refer to the combination of nuclein with mercury, known as mercuriol. Nuclein is found in the leucocytes; it is intimately associated with vital processes; and is in some way a natural means of defence of the human organism against germ invasion. Mercuriol is perfectly soluble in water: it does not coagulate albumin, and it therefore penetrates more deeply into the tissues than substances which have that effect. Mercuriol is being used with success in the treatment of inflammations—simple and specific—of the mucous membranes of the eye and urethra. In the treatment of gonorrhea I regard it as almost a specific.

It is not my desire to present a lengthy paper upon this topic, interesting though it may be, but I will merely refer to a case which I have had under treatment for the past ten days, which has impressed me deeply with the value of mercuriol in handling such

ordinarily intractable cases. This was a case of neglected gonorrhea of two months' standing, complicated by the formation of two large urethral fistulae which perforated the inferior urethral wall. Under the systematic use of mercuriol, not only has the discharge almost entirely ceased, but the fistulae have healed completely, during the short period of treatment.

Mercuriol solutions may be used in varying strength—from one-quarter or one-half of one per cent. to two, three, or even five per cent. in certain cases. It is best to begin the treatment of any case with a weak solution, gradually increasing the proportion of mercuriol if improvement is not soon apparent.—*St. Louis Clinique.*

THIOCOL.

THIOCOL (Potassium Guaiacol-sulphonate) was used by Dr. J. A. Goldmann, of Vienna, in twenty-four cases (nineteen children and five adults) of chronic bronchial catarrh complicated with recurrent febrile attacks, very severe cough-irritation, and at times very difficult expectoration. In all satisfactory results were obtained: the fever in at most five days being entirely banished, expectoration greatly facilitated, the cough-irritation lessened, the respiration rendered more free, and the entire course of the disease rendered less disturbing, so that at the end of four, or at the latest seven weeks, convalescence, without any complications whatever, was well under way. All the patients took the remedy eagerly, and without any objection; it was very well borne by them, and in not a single instance were any disagreeable by-effects, such as diarrhea or vomiting, caused. The thiocol was used in the form of a ten per cent. syrupy solution, which was given to adults in doses of one dessertspoonful after each meal, three times a day; children received a teaspoonful thrice daily, with milk or coffee diluted with water. In every case it was remarkable to observe how rapidly the appetite was increased, and the general appearance and condition improved, and weight increased—from 4 1-2 to 10 pounds being gained in a period of scarcely two months.

According to the author's report, equally decided and satisfactory results were obtained with thiocol in eight cases of acute and chronic pulmonary catarrhs in various stages; and special attention is directed by the writer to the unmistakable antiseptic action of the preparation, evidenced by the rapid reduction of the fever. Already after the first few doses of the thiocol solution a constant diminution was observed; and in cases where the fever had, with other remedies, always recurred, it completely disappeared after six days' treatment with thiocol, and remained absent. In a very short time, besides, the general symptoms of the disease

were much improved: the annoying cough, difficult expectoration, dyspnea, sense of weight and pressure on the chest, and general lassitude, diminish day by day, the appetite increases, the subjective condition is gradually improved, and physical examination after a time shows evidence of complete cure. Albuminuria was not noted in any of the cases treated. The results in these cases lead the author to the conclusion that the remedy is to a certain extent a prophylactic.

Finally, the syrupy thioeol solution was also employed in nine cases of tuberculosis, three of which were young subjects, 14 to 23 years old, and six from 34 to 59 years old. Among the latter there were two of the most severe form, with cavity formation and repeated hemoptysis. In the milder cases the remedy afforded complete cures within a comparatively short time—four to six months; in moderately severe cases complete cures in from six to eleven months, and in two such cases very decided improvement, the cough rendered less frequent, the expectoration less viscid and reduced in quantity, the night-sweats entirely relieved, the appetite and appearance improved, and the weight increased, and the sputum, on examination, found to be entirely free from bacilli. The two very severe cases were improved by the thioeol, in so far that the night-sweats were lessened, the fever reduced, the appetite improved, and the severe and annoying cough-irritation lessened to a certain extent—results which are all that can be expected in such cases.—(*Wien. Med. Presse*, Nos. 13 and 14, 1900.)

H.R.H. THE GRAND DUKE OF HESSE has conferred upon Dr. Louis Merck the distinction of "Geheimer Commerzienrat" (Privy Councillor), in recognition of his great services to the chemical industry of Germany. H.R.H. has further conferred upon Dr. E. A. Merck the distinction of "Medicinalrat" (Medicinal Councillor), in recognition of his services rendered in connection with the chemical exhibition of the World's Fair of Paris, 1900.

It affords us much pleasure to learn of the election of Dr. T. D. Crothers, of Hartford, Connecticut, to the chair of Diseases of the Mind and Nervous System, in the New York School of Clinical Medicine. Dr. Crothers has a world-wide reputation as a pioneer in the study of inebriety and diseases of the brain and nervous system resulting therefrom; moreover, he ranks among our most eminent living authorities on mental alienation. Hence, we regard his promotion to a professorship in this well-known institution of post-graduate instruction as a richly deserved recognition of his services to his profession and humanity.

The Canadian Journal of Medicine and Surgery

A JOURNAL PUBLISHED MONTHLY IN THE INTEREST OF
MEDICINE AND SURGERY

VOL. IX.

TORONTO, FEBRUARY, 1901.

NO. 2.

Original Contributions.

FURUNCLE IN EXTERNAL EAR.—NASAL OBSTRUCTION AND PARESIS OF SOFT PALATE.

BY PERCY G. GOLDSMITH, M.D., C.M., BELLEVILLE.

Furuncle in External Ear simulating Acute Suppurative Mastoiditis.—Female, aged 32; referred to me for a mastoid operation. The history briefly is as follows: For the last seven or eight years patient has had an intermitting running ear, with occasional attacks of earache of slight severity. On one occasion six years previously, had a swelling and queer pain behind the ear, which subsided under hot fomentations. Three weeks before I saw her she had a slight earache, with cessation of discharge and rapidly increasing deafness. The pain in the ear became very severe and continuous, most marked at night, and not particularly affected by moving the jaws. Marked swelling came on gradually with redness and edema over the corresponding mastoid, but lately has somewhat subsided. Marked constitutional disturbances were associated with the pain—sleeplessness (she had had no sleep for last two weeks), chills, fever and vomiting.

On inspecting the head and comparing the two mastoids from behind, together with the history, certainly in my mind settled the diagnosis. However, on completing the examination, I had reason to doubt my previously formed opinion. The meatus was very markedly swollen, and at the posterior superior wall, at the junction of the bony and cartilaginous meati, was a distinct bulging extremely tender to the probe, as was all the canal. I could not inspect the drum-head owing to the swelling. The mastoid

itself was extremely tender on pressure, though on more careful examination I found I could not increase the tenderness by pressing deeply in an anterior and downward direction, taking care not to move the meatal walls.

My diagnosis was one of three things: (1) Furuncle alone; (2) Furuncle and acute mastoiditis. (3) Acute mastoiditis. The patient's appearance and history pointed strongly to the latter. The note I made in my case-book was, "Suspect entirely furuncle; chloroform because of nervousness." Chloroform having been administered, I incised deeply into the tumescence on the posterior wall, and found a small quantity of intensely fetid cheesy pus. I could detect no roughened bone anywhere. Hemorrhage was quite free, and I encouraged this with a warm douche. Boric



gauze, soaked with glycerine, acid. carbol. dil., was gently inserted between the lips of the incision, and drops of the same given for frequent instillation during the next day. A warm compress of lotio acid. boric was applied over the front and back of the ear and changed every three hours. Two days following the operation I again saw the patient, when she informed me that she had had her first night's sleep for two weeks; pain and throbbing was all gone. The mastoid swelling was very materially reduced, while the tenderness was entirely gone. Her temperature was normal, and there had been an entire absence of chills. I removed the gauze and thoroughly cleansed the canal, and found the swelling so much reduced that the drum-head, showing an old perforation situated above and posterior to the umbo, could be easily made

out. Her hearing was now equal to what it was before this illness. I ordered the drops to be continued for a week, adding some spirit to them. Patient rapidly became well.

I report the case to show what grave constitutional effects may be caused by a little boil in the ear, and how easily it might appear a much graver affection.

Nasal Obstruction and Paresis of Soft Palate due to Myrofibroma of Naso-pharynx.—Male, aged 20; consulted me for inability to breathe through the left nostril, associated with regurgitation of fluids through the right nostril when swallowing. A muffled voice was most noticeable. The history was simply one of partial left nasal obstruction for four or five years, but for the last six months absolute inability to get any air through that nostril. There was also a nasal discharge from the left nostril most marked on bending forward, the discharge consisting of glairy mucus. Otherwise, personal and previous history have no bearing on the case.

On examining the interior of the nose, I found a large quantity of glairy mucus lying in the inferior meatus, and a markedly inflamed condition of the nasal mucous membrane. I cleared away all the mucus, and except for a slight deviation toward the left of the septum, nothing could be seen. The middle turbinal was not enlarged. With a post-nasal mirror, however, I easily discovered the trouble, which was a large, slightly pinkish-looking mass, almost completely blocking the naso-pharynx. The mass was easily movable, and did not bleed readily. The size and position of the mass readily accounted for the paresis of the soft palate. I thought the tumor would have to be removed through the mouth, but decided to try intra-nasal means first. Five per cent. cocaine was sprayed into the nose and post-nasal region. A snare, having a milled screw for gradual tightening, was selected, and the loop left quite long. Having inserted the snare and allowed the loop to fall into the pharynx, with my right finger I worked the loop around the growth and gradually drew the loop home. The growth being very flat was easily doubled on itself, and with some difficulty came out through the nostril. Hemorrhage was for a few moments very free, but rapidly subsided, leaving the nostril patent. On examining again next day with a post-nasal mirror the growth was seen to spring from the posterior end of the middle turbinal. Regurgitation of fluids rapidly stopped, and the patient experienced a very great deal of relief. The growth was extremely tough, and came away in one piece.

ELECTRO-THERAPEUTIC SINS.*

BY REV. H. NEWMAN LAWRENCE, STAPLETON, NEW YORK, N. Y.

SIN is the transgression of the law, therefore electro-therapeutic sins are transgressions of the laws of electro-therapeutics. These laws are many, for they embrace nearly all electrical laws, a large proportion of the general therapeutic laws and a number of special laws born of the combination of electricity and therapeutics. Any enumeration of these laws is beyond my province, would occupy too much time, and would partake somewhat of the nature of an insult to my hearers who are acquainted with them already.

The transgression of these laws may be either wilful or ignorant. Both may be classed as sins and, let me add, that there is such a thing as wilful ignorance, and this is perhaps the greatest sin of all.

Although I suppose that I am confined by the title of this paper to scientific sins, yet I cannot refrain from mentioning that electro-therapeutic laws are subject to the great moral law of right and wrong. In so far as the large majority of the members of this Association are physicians and surgeons, it is manifest that there is no need to say much about transgression of therapeutic laws. The diploma which each possesses from his *Alma Mater* testifies that he knows the laws; and the high ethical principles which distinguish the profession as a whole are evidence that he does not transgress them.

When, however, the physician comes to apply electricity to his therapeutics, the conditions are widely different. His diploma does not cover electrical knowledge. His regular course of instruction either did not teach him electrical laws, or only gave him a very meagre and imperfect acquaintance with them.

Herein lies a great temptation to electro-therapeutic sin. Shall he use electricity in his practice without first gaining a reasonably full knowledge of its laws? If he yields to such temptation he is clearly guilty of electro-therapeutic sin. His position would be analogous to a physician who had somehow obtained his diploma without possessing any knowledge of medicinal chemistry and then proceeded to not only prescribe medicines, but also to do his own dispensing. If an electrician presumes to prescribe and apply electricity to the human body when he is ignorant of thera-

* Read at the annual meeting of the American Electro-Therapeutic Association, New York, September 25th, 1900.

peutics, he at once meets and deserves the condemnation of the medical profession; but granted that he is a *bona fide* electrician, it seems to me a question of fine casuistry as to which is the greater sinner—the physician who practises electro-therapeutics without knowledge of electricity, or the electrician who practises electro-therapeutics without a knowledge of therapeutics.

When the busy physician finds it necessary to entrust the carrying out of the electrical prescriptions to an assistant, it is very necessary that he exercise due care that such assistant is qualified to carry out his instructions; otherwise, if not actually a sinner himself, he is at least “an accessory before the fact.”

Whatever may be said of science in the abstract, it is certain that applied science cannot be scientific unless that which is applied is measured. Electrical energy can be measured, and is, moreover, sold by certain units of measurement. The laws of electrical measurement are well known, so that to apply electricity to therapeutics without measurement is to be guilty of electro-therapeutic sin.

There are other kinds of sins which, though perpetrated under the name electro-therapeutic, are not really electro-therapeutic at all; but inasmuch as they cause great wrong to the public under cover of the name, it may be well to say a few words about them here. Belts and other body appliances bearing the name electric or magnetic and claiming to apply electricity to the body are, with scarce exceptions, frauds, and those persons who sell or recommend them are guilty of electro-therapeutic sin of the grossest kind. That these appliances violate all laws, electric and therapeutic, has been frequently pointed out, but as such exposures seldom get beyond the technical journals, the general public can hardly be said to be influenced by them. Still, as attention cannot be too strongly called to the matter, I will briefly re-state the main facts.

A very large proportion of the so-called electrical appliances are so badly constructed or so marvellously connected that they cannot by any possible chance or mischance produce electric currents. Some bear their own condemnation upon their faces, for they are announced as never wearing out and never requiring renewal.

The only way in which an electrical appliance can benefit the body electrically is by producing electrical energy capable of doing work upon the body, in the same way that an electric outfit must produce electric energy capable of doing work upon the bell, *i.e.*, making it ring. There must be a source of energy in the apparatus, and that source requires to be renewed from time to time, as the energy produced by it becomes exhausted. In other words, we must have an electric battery, and the electric battery which will never wear out nor run down, as it is called, has yet to be

discovered. Science says clearly and definitely that energy can not be created; it may be transformed, changed in character—as from chemical to electrical in the galvanic battery—but it cannot be obtained or created from nothing. Any electrical appliance, therefore, which professes never to need electrical renewal is a fraud.

Let us take an illustration from the typical electro-magnetic appliance. We have one or two or more strips of magnetized steel sewn into garments or bands, and we are told that the presence of these magnets causes electrical currents to be produced in the body. Now, while it is quite true that electric currents may be produced in a conductor which is in proximity to a magnet, it is also true that in order to do this one of the two must be moved relatively to the other. Either the magnet must be moved relatively to the conductor or the conductor must be moved relatively to the magnet; without such motion no current can be set up in the conductor. Were it otherwise there would be no need to employ large steam engines or water-wheels, or seek the power of Niagara Falls to drive dynamos for the production of large currents for electric light and power purposes. All that would be necessary would be to place magnets near the conducting wires, and then to draw off all the electrical energy required. The absurdity of such an idea is apparent to every one, and yet when it is put forward in connection with body appliances many are willing to accept it without question or thought. The body, which is here supposed to be the conductor, when it moves carries the magnet or magnets with it, and there is no relative motion of either one to the other. There is no energy expended in the appliance, and consequently no possibility of any electrical influence upon the body. It would be just as reasonable to place a hammer and nail together, and expect the latter to be driven home without any movement of the former, *i.e.*, without any expenditure of energy.

While on the subject of electro-magnetism it may be well to refer to the fact that magnetism alone has been said to influence the body. Against this assumption (in favor of which not one iota of physiological proof has ever been offered), we have the carefully carried out experiments of Kennelly and Peterson (*New York Medical Journal*, Dec. 31, 1892), who, throughout a long series of tests, found not the slightest evidence of physiological action, even when their subjects were placed in very strong magnetic fields.

Further, the startling claims of Dr. Luys, in Paris, as to the curative influence of magnets, were shown by Dr. Hart (*Popular Science Monthly*) to be based on psychological effects alone, equally good results being obtained from dummy magnets of wood, etc. In fact, the suggestion was everything and the fact nothing.

Other appliances and devices are to be found which differ from the above only in the point that they do not claim magnetic action. They profess in some other way to do electrical work without any provision for the production of electrical energy, or they are said to act in some hitherto unknown manner, which even their vendors do not attempt to explain, but lead the public to suppose the "action" to be electrical, because they use the word electric or electro as a title. An apparatus of this type has recently had a large sale both in America and in England. Its vendors have never (so far as I know, and I have questioned them myself) attempted to explain the action claimed for it. Nor can they, for the whole idea is an outrage upon the well-known and oft-proved laws of physics and physiology. Yet this thing is sold freely at more than a hundred times the cost of its materials, and some people who claim to be apostles of light and leading do not hesitate to openly praise and recommend it.

I will pass on to those devices which are, perhaps, more difficult to deal with because there is a germ of truth in them. I mean those appliances which are capable of producing electrical manifestations under certain conditions. Now what are the conditions under which electricity may influence the body, *i.e.*, do work upon it? Physiologists tell us that the properties of galvanic or continuous electric currents which can influence the body structures are the electrolytic, the thermal, and the cataphoric—electrolytic, by means of which the fluids of the body are decomposed or broken up into their constituent parts; thermal, by means of which the temperature is raised, either locally or generally; and the cataphoric, by means of which substances in solution are passed without chemical change from one part of the circuit to another.

To produce these effects we must have a current which can pass through the body or that portion of it which it is intended to influence. The body offers considerable resistance to the flow of an electric current, and consequently any current must possess a proportionate amount of electric pressure, or electromotive force, as it is called, before it can overcome that resistance, pass into, and do work upon the body. The state of affairs is somewhat similar to that under which a bullet, when simply pressed or thrown against a door, fails to pass through it, but when fired from a pistol, by reason of its velocity or pressure, not only passes through it, but is capable of doing work on the other side. Going a step further, we may point out that, supposing the door to be very thick, or have iron sheeting over it, an ordinary pistol would fail to pierce it, but that a bullet from a more powerful gun would easily succeed. For electrical purposes the body may be said to be protected by a semi-proof sheeting (the skin), which can only be penetrated by currents possessing considerable pressure on

account of the resistance which it offers. It would occupy too much time and space to go fully into the consideration of the resistance of the human body. Many authorities have found the value of this resistance under various conditions, but until quite recently no measurements taken under belt conditions had been recorded. Those who have never tried such measurements can not fail to be astonished at the high resistance of the body under these circumstances.

A short time ago I measured it on several people, using for the purpose a belt which had just been purchased at one of the large establishments for the sale of such commodities. The average resistance was 800,000 ohms. As this particular belt had rather small discs, I will assume that the figures may be less with others whose contact discs are larger or differently arranged. Let us be charitable and call it a half, *i.e.*, 400,000 ohms. To pass even the tenth part of one milliampere through such resistance requires (by Ohm's law) 40 volts, and this is at least 40 times more than the best of such belts is capable of. This view of the resistance of the body under the belt conditions has also been proved by Dr. W. S. Hedley (*Provincial Medical Journal*), and by expert evidence given at the famous Harness belt trials which occupied the English law courts at intervals during the autumn of 1892 and spring of 1893 (*Electrical Review*).

Such being the resistance, let us see how we arrive at the conclusion that 40 volts is 40 times more than such belts are capable of producing. Every belt which depends upon the moisture of the body for its action can not produce a higher electromotive force—electric pressure—than that of one couple of the elements of which it is composed, because all the elements dip into the same electrolyte (the body moisture), and can not, therefore, be connected in series. There may be many elements, but the fluid of the body can not be separated off into cells. It is all in one containing vessel, so to speak, and the only effect of increasing the number of the couples is to practically increase the size of the plates of similar metal.

As electromotive force depends only upon the electrical difference between the metals used in the same exciting fluid or electrolyte, it follows that the total electromotive force of these couples, be they few or many, is only that of one couple. The couples used in these belts are nearly always copper and zinc, and their maximum electromotive force in the presence of such fluids as body moistures is less than one volt (*Electrical Review*).

So far, then, we have an arrangement that may give one volt and which has to act upon a resistance of 400,000 ohms. This, by Ohm's law, will give a possible current through the body of one-fourth of a thousandth part of one milliampere, an infinitesimal

fraction of the smallest current (one milliampere) recognized by electro-therapeutists; too small for any but the theoretical mathematician, and less than may be obtained by dipping a needle and a pin in a spot of ink (*Electrical Review*).

The belt vendors sometimes try somewhat to trim their sails to the wind, and declare that their devices are intended only to generate small currents, and that their infinitesimal possibilities may prove useful to the body if the time factor is taken into account; that a small electrical influence applied for a long time is equivalent to a greater influence applied for a proportionally shorter time. Imagine having to wear a belt four thousand hours (nearly six months) before the effect of even one milliampere hour could be obtained!

In conclusion, I wish to speak of yet another class of electro-therapeutic sins—*viz.*, Testimonial sins. Here the cultured and the educated, outside the medical and electrical circles, are largely to blame; and conspicuous, if not chief, among these sinners are the clergy. We, of the clergy, are bound to make faith one of the chief factors of our teaching and our practice, but it is, or should be, faith in the truth. This for the pulpit, but in practice how often do we find that blind faith is put in all sorts of outlandish things, especially in the nature of body cure-alls, without any effort being made to discover the truth concerning them. In this way some of the vilest electrical quackery has received not only the approval, but also the public recommendation, of men whose position as ministers of the Gospel gives them considerable influence over suffering humanity. Surely the clergy above all others should avoid this sin, remembering that "blind unbelief is sure to err," and that scientific truth should be sought for and can always be found.

RHUS GLABRA IN ENURESIS.

BY J. J. CASSIDY, M.D.,

Consulting Physician Toronto General Hospital.

THE internal use of *rhus glabra* will prevent incontinence of urine. Butler ("Text-Book of Materia Medica, Therapeutics and Pharmacology") says of this drug that "a dose of 10-30 drops of the fluid extract, taken two or three times daily, has produced complete temporary suspension of nocturnal enuresis of children, as well as senile enuresis." The action of *rhus glabra* resembles that of tannic acid. *Krameria*, another vegetable astringent, has also been used in incontinence of urine. The astringent action of *rhus* is probably exercised on the bladder, while the drug which is present in the urine, comes in contact with that viscus. When the contact is repeated every day for a considerable time, important changes may be produced in the mucous membrane of the bladder, and the habit of enuresis broken up. Whether this contention be true or not, it is a matter of observation that a brief employment of the drug, which cannot cause an important change in the vesical mucosa, though efficient for a time, is followed by a relapse. The following cases, which occurred in my practice last year, seem to emphasize the view that long-continued use of *rhus glabra* is the important element in the enduring cure of enuresis.

From February 23rd to June 24th, 1900, three lads, of ages ranging from twelve to fourteen years, were treated by me for enuresis. The details of the treatment were carried out by the infirmarian of the institution in which they boarded. Each of the lads had, at different times, received medical treatment from other physicians prior to coming under my care. The lads were not sickly-looking, and took active exercise. Two of them were undersized for their age and were of the nervous temperament; the third, who was well grown for his age, was of the lymphatic temperament. Prior to my taking charge of them the only treatment pursued at the institution had consisted in restricting the amount of fluid taken at night, and in making the lads arise from bed every night about 11 p.m. in order to urinate. These precautions, however, had proved unavailing.

The prescriptions used were as follows:

R Ferri Citratis	gr. 160
Syrupi Calcii Lactophosphatis.....	}āā 3ij.
Syrupi Cascaræ Aromatici	

M. Sig.—A teaspoonful after dinner (noon).

R Extracti Rhois Glabræ Fluidi..... ℥ 320
Syrupiq. s. ad. ʒij.

M. Sig.—A teaspoonful at bedtime.

This treatment was continued regularly from day to day and without intermission during the months of March, April, May and June, 1900, the lads being in good health and free from their complaint. During the months of July and August the treatment was discontinued, and has not been resumed since. In December, 1900, and in January, 1901, two of the lads were treated for influenza, one of them having broncho-pneumonia; but in neither case did enuresis reappear. The third lad I did not see, as he did not return to the institution.

The conclusion is obvious, therefore, that in two of these cases and probably in all three, *rhus glabra* produced more than a temporary effect. My explanation is that this remedy was given regularly for four months, and the cure resulted largely from the continued action of the vegetable astringent on the vesical mucosa, and particularly the fibres of the sphincter vesicæ. The use of iron as an adjuvant to *rhus* is important; but, the mineral being incompatible with a vegetable astringent, it was given in a separate prescription. Though the blood-count was not made, the appearance of the labial and ocular mucosæ in these cases indicated, that an iron tonic would be useful. Syrup *Cascara Aromatic* was combined with it to overcome its constipating action.

The syrup of the lactophosphate of lime is useful in relieving atonic and irritative dyspepsia, which in some cases of enuresis may be responsible for a disordered and irritating condition of the urine, such as lithemia and oxaluria. The restoration of the urinary secretion to a normal condition tends to make the bladder more tolerant, and thus by lessening irritation of the vesical mucosa promotes the cure of enuresis. All the authorities say that *rhus* should be given three times a day, and iron is usually given as often. Each of the mixtures I ordered was given once a day, so that in my cases the results were as favorable as they could have been if they had been used more frequently. The treatment was also carried on with no friction between the patients and the infirmarian, it being an easy task to get the boys to take a palatable tonic once a day after dinner, and the specific medicament at bedtime.

Whatever the rationale of cure may have been, these medicines proved successful in three relapsing cases of enuresis, and two of the patients, to my certain knowledge, remain cured.

AMONG THE TOMES.

BY W. A. YOUNG, M.D., L.R.C.P.(LOND.), TORONTO.

THE twentieth century has dawned pregnant with the promise of wonderful advancement; the nineteenth century has died famous, achievement writ large upon its epitaph. It is not strange that the prevailing pose of the moment seems to be looking backward, and recapitulating what has been attempted, what done, during the earlier number of the hundred years just gone by. Interested, of course, in medical journalism, it was but natural to seek and find copies of the first Canadian and first American medical journals published on this continent.

In the fine old Surgeon-General's Library at Washington, D.C., prowling around and spending many a pleasant hour, we came across original copies of both the sought-for magazines.

The first Canadian medical journal was called the *Journal de Medecine de Quebec*, published by Xavier Tessier quarterly, January, 1826, to April, 1827; octavo size. It was more familiarly called the *Quebec Medical Journal*. The articles were alternately in French and in English. The opening editorial announcement we quote verbatim:

"It might have been expected that we would have devoted this part of our labor to the critical analysis of the many and voluminous works which daily make their way into the medical world, signalizing and commenting on those parts where the author has the merit of invention or improvement, and at the same time pointing out those ideas which are only founded upon speculative arguments or a superficial investigation of facts; but it is our intention to undertake such an arduous task when our publication shall from its general circulation afford us the means of increasing its number of pages which at present would not admit of such an extensive plan.

"On the other hand we consider it as more intimately connected with our intention to give a short and concise view of the improvements which have lately taken place in the various branches of Medical Science; and it is with a view of attaining this end that we shall for the moment confine ourselves to the analysis of the most interesting articles in the European and American journals.

"The *London Medical and Physical Journal*, a work to which this country is particularly indebted for the most accurate practical information, is the first which we shall peruse. The next

will be the *Edinburgh Medical and Surgical Journal*, whose fame is too universally established to need any comment; and after having given our attention to the French journals, and particularly to the celebrated *Journal de Majendie*, we will turn our regards towards our neighbors whose rapid improvements in science have acquired too high a consideration not to be read with a particular interest to this country. We will follow the same order with regard to other journals equally interesting.

"In order to give our readers in this Province a more complete idea of the progress of science since a few years, we will begin our analysis by the year 1823. Our second number will embrace 1824; the third, 1825; and the fourth, 1826. This will bring us to 1827, when we will follow the science more closely; and if we can reasonably anticipate that a favorable crisis will turn toward the advantage of the profession, those divisions which have too long prevailed amongst the medical gentlemen of this country, we have no doubt that Canada will soon be able to contribute its share to the improvement of medical science." (Editor.)

Amongst the articles in English which appeared in the first number of this old and interesting publication were:

1st. An extract from the *London Medical and Physical Journal*, Vol. XLIX., 1823: "Practical Observations on Distortions of the Spine, Chest and Limbs; together with Remarks on Paralytic and other Diseases connected with Impaired or Defective Motion," by Wm. Ward, F.L.S.

2nd. "A Treatise on Dislocations and on Fractures of the Joints," by Sir Astley Cooper, Bart., F.R.S., Surgeon to the King.

3rd. "On the Use of Carbonate of Iron in Tic Douloureux," by Dr. Stewart Crawford and Anth. T. Thompson, Esq.

4th. "New Method of Performing the Operation of Lithotomy in the Female," by Dr. Liserane (*Journal Universel*, Fevrier, 1823).

Then followed some quarterly hospital reports, showing the number of patients admitted into and discharged from Montreal General Hospitals from February 1st to May 1st, 1825; from May 1st to July 31st, 1825, and from the 29th July to 28th October, 1825.

The medical officers during that time, and between these dates, were Dr. Caldwell, Dr. Robertson, Dr. John Stephenson, and Dr. A. F. Holmes. The number of indoor admissions from February 1st to May 1st were but 83, of whom they claimed 79 were discharged "cured" of the 83 admitted. The cause most prevalent was inflammation of the lungs in 9; catarrh 10; ulcers 7; compound fracture 5. We notice that during the following quarter out of 223 admissions, 79 suffered from continued fever; 14 from

rheumatism, and 10 from diarrhea. Then follow some reports from the Quebec Emigrants' Hospital. At this date it was evidently common to publish each quarter a meteorological table of the atmospheric variations, as in this journal we noticed a daily meteorological report of the winds and the atmospheric variations for the three months of October, November, and December, 1824. On the back of the first cover of the first issue of the *Quebec Medical Journal* appeared the following:

CONDITIONS.—“This Journal will appear quarterly, commencing by the month of January, and will comprehend for the present 64 pages. The price will be 20 shillings per annum, payable every six months, the first payment to be made after the delivery of the first number and the second after that of the third. The delivery of the first number will not bind the person to whom it shall be delivered. All communications relative to the various branches of the medical profession will be gratefully received, being addressed, free of postage, to The Editor at Quebec, No. 4 Notre Dame Street, near the Lower Town Market Place.”

The typography was remarkably clear, and the *Journal* a creditable and readable production, a fine example and a good headline copy for those who coveted a place among medical journalists in the years to come. We take the liberty of appending a list of the medical magazines started in Canada, but alas, like the good, they died young.

MEDICAL JOURNALS PUBLISHED IN CANADA NOT NOW IN EXISTENCE.

Abeille (L') Médicale. Journal de l'Ecole de Médecine et de Chirurgie de Montreal, de l'Hôpital Hotel Dieu, de la Maternité Ste. Pelagie et des Dispensaires. Publication mensuelle. Thos. E. d'Odet, d'Orsommens, rédacteur-en-chef. Vols. I.-III. ; No. 1, Vol. IV. January, 1879, to January, 1882. 8vo. Montreal.

The British-American Journal of Medical and Physical Science. Edited by A. Hall and R. L. Macdonnell. Monthly. Vols. I.-V. April, 1845, to April, 1850. 4to. Montreal. Continued as *The British-American Medical and Physical Journal*. Conducted by same editors. May, 1850, to January, 1852. 8vo. Montreal.

The Canada Health Journal. Edited by Cl. T. Campbell. Nos. 1-5, Vol. I. January to May, 1870. 8vo. London, Ontario. (Ended.)

The Canada Medical Journal and Monthly Record of Medical and Surgical Science. Edited by R. L. Macdonnell and A. H. David, and later by G. E. Fenwick and F. W. Campbell. Vol. I. March, 1852, to June, 1872. 8vo. Montreal. (Ended.)

The Canadian Journal of Homeopathy. Edited by W. A. Greenleaf and A. T. Bull. Monthly. Nos. 3, 8, 10, Vol. I. March, August and October, 1856. 8vo. St. Catharines. Nos. 8 and 10 were published in Hamilton.

The Canadian Medical Times. A Weekly Journal of Medical Science, News and Politics. Edited by Jas. Neish. Nos. 1-26, Vol. I. July 5th to December 27th, 1873. Kingston.

The Dominion Sanitary Journal was the title of *The Sanitary Journal* in October, 1883, to July, 1885. Vols. VI., VII.

Gazette Médicale. Revue mensuelle, Medico-chirurgicale. Rédacteurs-propriétaires, A. Dagenais and Dr. Lemire. Vol. I. August, 1865, to July, 1866. 4to. Montreal. (Ended.)

Le Guide Sanitaire. Journal d'Hygiène pratique réd. par un comité de collaborateurs; paraissant tous les mois. No. 1, Vol. I. November, 1874. 8vo. Montreal. (Ended.)

Health and Home. A Journal of Sanitary Science and Home Hygiene; also, the official organ of the Canadian Sanitary Association and a Dominion Record of Vital Statistics. Manager and editor, Fred. N. Boxer. Monthly. Nos. 1-3, Vol. I. February to April, 1884. 8vo. Montreal.

La Lancette Canadienne. Journal medico-chirurgical, publié à Montreal, par le docteur J. L. Leprohon. Semi-monthly. Nos. 1-8. 11, 12, Vol. I. January 4th, to June 15th, 1847. Montreal. (No. 12 last published.)

The Medical Chronicle; or, Montreal Monthly Journal of Medicine and Surgery. Edited by Wm. Wright and D. C. MacCallum. Vols. I.-VI. June, 1853, to May, 1859. 8vo. Montreal. (Ended.)

The Ontario Journal of Health. J. F. Latimer, editor and publisher. Monthly. No. 1, Vol. I. April, 1877. London, Ont.

The Provincial Medical Journal. Edited by W. B. Slayter, E. Farrell, R. W. McKeague. Quarterly. Nos. 2 and 3, Vol. I. August, November, 1868. 8vo. Halifax, N.S.

Public Health Magazine and Literary Review. Edited by Geo. A. Baynes. Monthly. Vols. I. and II. July, 1875, to June, 1877. 8vo. Montreal.

The Sanitary Journal. Devoted to Public Health. Edited by Ed. Playter. Bi-monthly. Vols. I.-X. July, 1874-88. 8vo. Toronto, 1874-83; Ottawa, 1883-88. In September, 1880, title became *Canada Health Journal*; in June, 1883, title became *Sanitary Journal*; in October, 1883, title became *Dominion Sanitary Journal*; in September, 1886, title became *Canada Health Journal*; in July, 1888, title became *The Health Journal*.

L'Union Médicale du Canada. Revue medico-chirurgicale paraissant tous les mois. Rédacteur-en-chef, J. P. Rottot; assistant rédacteurs, A. Dagenais and L. J. P. Desrosiers. Vols. I.-XV., 1872-86. New Series, Vols. I., II., 1887-88. 8vo. Montreal. Edited successively by Geo. Grenier, E. P. Lachapelle, A. Lamarche and H. E. Desrosiers.

The Upper Canada Journal of Medical, Surgical and Physical Science. Conducted by E. M. Hodder, Jno. King, Jas. Bovell, L. O'Brien and H. Melville. Monthly. Vols. I.-III. April, 1851-54. 8vo. Toronto.

Our curiosity satisfied and proud of Canadian brains and enterprise, we turned the eyes behind our spees to the land of the Stars and Stripes. In a book, "A Century of American Medicine" (1776-1876, by Edward H. Clarke, Prof. of Materia Medica in Harvard; Henry J. Bigelow, M.D., Prof. of Surgery in Harvard; Samuel Gross, D.D., LL.D., M.D., D.C.L., Oxford, etc., and several other distinguished men of the time. The work was published in Philadelphia by H. C. Lea in 1876.) Dr. Billings says: "The original, or first wholly American medical journal, was a

quarterly, *The American Repository*, edited by S. L. Mitchell, Edward Miller, and E. H. Smith, and published at New York from 1797 to 1824. That this met an existing want is shown by the fact that the demand for the earlier volumes was sufficient to warrant the issue of a second edition of the first and second volumes in 1804-5."

Dr. E. H. Smith, the projector of this journal, was born in Connecticut 1771, and died 1798. Although so young, he had edited several works, and contributed to literary periodicals as well as to his own medical journal.

Dr. S. L. Mitchell, 1764-1831, graduated at Edinburgh in 1786. As Professor of Chemistry and Natural History in Columbia College, and from 1820 to 1826 of *Materia Medica* and Botany, chief editor of the *Medical Repository*, representative in Congress in 1801-4, and 1810-13, and United States Senator 1804-9, he lectured and wrote upon almost all subjects, and his papers are scattered through various periodicals at home and abroad. He was rather a naturalist than a physician, and has very properly been called a "chaos of knowledge."

Dr. Edward Miller (1766-1812) was a native of Delaware, and a graduate of the University of Pennsylvania in 1789. In 1807 he accepted the chair of the practice of physics in College of Physicians and Surgeons, and in 1809 was appointed one of the physicians to the New York Hospital. His writings were collected and published in one volume in 1814, the most important being his papers on yellow fever.

"The idea of the publication of the *Medical Repository* was probably taken from the *Annals of Medicine* of Duncan, a continuation of the *Medical and Philosophical Commentaries of Edinburgh*, and of which the *Edinburgh Medical Journal* of the present day is the successor. Although, owing to the tastes of Dr. Mitchell, it contains many dissertations which are now obsolete, the entire set of twenty-three volumes is even to-day well worthy of a place in the physician's library. At the close of its career its subscribers passed to the *New York Medical and Physical Journal*, and from that time New York City has never been without a medical journal.

To peruse the pages of the first volume of the *Medical Repository*, published now more "than a century gone to-day," inspires respect and almost reverence for those who with their enterprise, and in dignified English, took upon themselves the responsibility of becoming the great-grandfathers of medical journalism. Let us look at the compilation of the journal. First, a circular letter to the profession. The first article of introduction consists of a Medical Essay—the first of a series. Section 1, the Plague of Athens. In it are cited several stanzas of a poem called "Works

and Days," by Hesiod. Section II. contains a dissertation on "Whether the plague was imported or of local origin," ending with the assertion of the similarity of the disease with the fevers existing in America, in these words: "The history of the Plague of Athens, now concluded, offers so many points of resemblance both in nature and origin to our own fevers, that we may be justified in declaring it to have been in all essential particulars the same disease. A minute comparison, should it display minute dissimilarities, could scarcely fail of presenting as many minute similarities, and a due consideration of every circumstance cannot but impress the mind with a deep conviction of the unity of cause, in ages so remote."

Article II., entitled "Remarks on Manures," consists of about 20 pages. Article III., "Doctor Morton's Summary of the History of the Continued Fever in England from 1658 to 1691." Translated from the original Latin for the *Medical Repository*." Article IV., Remarks on "The Cholera or Bilious Diarrhea of Infants," by Dr. Miller. Article V., "The Speech of Fourcroy in the Council of Ancients, delivered in the Session of the 10th of Ventose (February 28th, 1797), on "The Resolution Relative to Powder and Saltpetre Manufactories," translated from the *National Gazette or Universal Monitor* of the 5th of March, 1797, for the *Medical Repository*. Then comes the department entitled *Review*, with the head-note: "Under this title it is intended to include a review not only of late medical publications, strictly so-called, but also of all such publications concerning agriculture and other branches of natural history, natural philosophy, etc., as may in any wise relate to the objects contemplated in the plan of the *Medical Repository*." The books are exhaustively reviewed and considered line upon line and precept upon precept. In the first volume they consist of "Medical Inquiries and Observations," by Benjamin Rush, M.D., to which is given six pages, and is "to be continued."

2. "A Memoir concerning the Fascinating Faculty which has been ascribed to the Rattlesnake and other American Serpents," by Benjamin Smith Barton, M.D., etc. To this publication is devoted 8 1-2 pages.

3. "Medico-Chymical Dissertations on the Causes of the Epidemic called the Yellow Fever, and on the best Antimonial Preparations for the use of Medicine," by a physician signed "Practitioner" in Philadelphia. To the review of this work 6 pages are devoted. Then, under the department "Medical Facts, Hints and Inquiries," are briefly discussed "Inoculation," "Carbon," "Syphilis," "Syphilis and Fever," and signed E. H. S. Then a table entitled "Meteorological Observations for January, 1797, made by Gardiner Baker in the Cupola of the Exchange in the

City of New York." Then follows a table of patients admitted to the New York Hospital from January, 1797, to July 1st, 1797, with a list of diseases. Evidently the most fashionable (!) diseases of that time were syphilis, rheumatism and pneumonia. The number received from January to July was 209, and 152 were cured. Then a department entitled "Medical News," including intelligence concerning Medicine, Natural History, Agriculture, etc., both Foreign and Domestic, all information being "respectfully solicited." The "appendix" comprises letters under the headings "Domestic and Foreign," and circular letters telling of the virtue of medical properties, one in praise of the vapor of vitriolic ether in cases of phthisis pulmonalis. With this closes the first number of the first original medical journal in the United States—a splendid production, worthy its name, a monument to its editors and its century, and a compliment and a chart to its great-grandchildren, the medical journals of the twentieth century, who alas, in many instances, are new grafts on the family tree, and have neither the comely features nor the stately quill of their grandfather. Would that they even had inherited "gran'ther's clos," for the first medical journals were fittingly attired.

Public Health and Hygiene.

... IN CHARGE OF ...

J. J. CASSIDY, M.D., AND E. H. ADAMS, M.D.

HISTORY OF THE PROGRESS OF PUBLIC HEALTH DURING THE CENTURY—1800-1900.

BY PETER H. BRYCE, M.A., M.D., TORONTO.

(Continued.)

1. THE PERIOD OF INVESTIGATION.

The opening year of the century is notable because of the establishment in London of the Royal Institution, originally conceived as an establishment for the benefit of the poor. This institution has a special claim upon the interest of this Association, since its foundation was due to the efforts of Benjamin Thompson, afterwards Count Rumford, a Royalist American, who, going to Europe after the Revolution, had engaged in various services in different countries. His labors were in the field of philanthropy, where he specially endeavored to have science applied to domestic economy, and particularly for having cheap foods supplied for the needs of the poor in London and other large cities. It was intended to institute a system of popular lectures in order that a practical knowledge of inventions and of the means of obtaining the comforts and conveniences of life might be rapidly diffused. Humphry Davy, then a budding natural philosopher, was fortunately appointed first lecturer on chemistry, and succeeded in a remarkable way in interesting the public in his discoveries and in popularizing science in England. A lecturer of marvellous power, he traced out in the introductory lecture of 1802 the resources of science for humanity, and dealt upon its dignity and nobility as a pursuit, and upon its value as a moral and educational force. The lecture created a sensation, Davy became the lion of fashionable society, and for thirteen continuous seasons gave lectures on many and most varied subjects, from "laughing gas" to the constituents of artificial manures for agricultural purposes. But most to be remembered is that invention, the miner's safety lamp, the result

of a few months' experiment, which he had undertaken at the request of those specially interested in coal-mining. Seldom if ever has the sanitary value of a single invention been so quickly appreciated, and its benefits so strikingly illustrated; and yet when asked to patent the discovery, Davy wrote: "I never thought of such a thing; my sole object was to serve the cause of humanity."

In addition to the number of splendid workers whom Lavoisier left behind him in Paris, as Laplace, Fourcroy, Guyton de Morveau, Gay Lussac, Berthollet and Humboldt, England possessed other investigators, who, if not popularizing science, were perhaps adding, even more than Davy, to what has proved of extended permanent value. Of these, as the scholarly physician and conscientious investigator, was Dr. Wollaston, who, regardless of money, devoted himself in 1801 to pure chemistry, and was among the first to begin its application to physiology. He made platinum invaluable and gave us the theory of chemical equivalents; dipped into electricity, and came to be regarded as the greatest master of pure chemistry of his time. He died in 1828.

Alongside with his work must be placed that of the Quaker schoolmaster, Robert Dalton, since his work was especially in that branch which we now call chemical physics. His chief work was done in that centre of industry, Manchester. He has been called the father of modern meteorology, and did more to establish the laws of gases or elastic liquids than any who had preceded him. He it was who first pointed out that aqueous vapor was mechanically combined in the atmosphere, and that each gas therein is subject wholly to its own laws. His experiments on dew and moisture were wholly new, and he gave us the earliest definition of the "Dew Point." He pointed out that fluids could conduct heat as well as convey it by convection, and demonstrated the important fact of heat being produced by mechanical pressure of air, and cold by its rarefaction. He likewise demonstrated that springs owed their origin to rain falling on the surface. He established the law of the expansion of gases, and constructed the hygrometer, and proved that the amount of evaporation in any given time was strictly proportionate to the force or pressure of aqueous vapor at the same temperature. His work in this field of pneumatic chemistry first led him to theorize as to the constitution of matter, and to him we owe the first clear conception of the atomic theory as we find it to-day, but little modified, and taking hydrogen as unity he determined the weights of many elements, and the law of multiple proportions through the constitution of the elements in compound bodies. Questioned and doubted, his discoveries were substantiated, and Davy asserted that the "Atomic Theory" was the greatest discovery of the age, and placed his services to chemistry on a par with those of Kepler to astronomy. His useful life

was extended to 1844, and we find in him one of the Nestors of the British Association for the Advancement of Science.

In Dr. Thomas Young we have the third of a triad of great men grouped together by the first President of the British Association as making glorious the history of this period of our century. He it was who first established the wave theory of light; he made deep researches in electricity, and was valued for his mechanical knowledge as well as for his knowledge as a physician. Equally celebrated in science, which knows no country, was Berzelius of Sweden, and Gay Lussac, Ampere, Volta, and Oersted and Arago in France, and Ohm, Seebeck and Becquerel in Germany, whose discoveries only awaited the wizard touch of the Canadian-American, Edison, to cast the rays of a search-light on a whole realm of nature whose mysteries had hitherto been concealed. Following the labors of Lavoisier and his associates in France, and of Werner in Germany, but at a later date, this period further saw laid the foundations of geological science in England, when Mr. William Smith published his map of the strata of England and Wales. Dr. James Hutton and Dr. John Playfair had both preceded him in Scotland, and explaining the past by the present, had appealed to the action of streams and seas, and the processes of decay and reconstruction to account for the changes of which the earth's crust bore records. They boldly led the mind back to an illimitable past for an explanation of world-phenomena, and like Galileo once more dared the anger of those whose Biblical cosmogony had so long obstructed the rational interpretation of the phenomena of Nature. Into the ever-widening field of investigation came Lyell and Sedgwick, Buckland and Murchison, until in 1830 appeared Lyell's "Principles of Geology," which became for thousands of students an open sesame to Nature's wonders. With students as Buffon and Cuvier in zoology, Louis and Dupuytren in medicine and anatomy in France, and Hunter and Jenner in England, it was evident that the *disjecta membra* of science must soon be brought together, when the phenomena of the external world could be utilized to interpret the laws of the physical system of man. At the beginning of the century the medical profession in England was represented by an array of surgeons, physicians and apothecaries and an army of nondescripts from tooth-drawers and cutters to barber-surgeons, subject to no controlling body and unrecognized by law. In 1815 the Apothecaries' Act was passed prohibiting practising without a license, but excepted the Licentiates of the Universities of Oxford and Cambridge, of the Royal College of Physicians, and of the Royal College of Surgeons; and henceforth gave a definiteness of direction to medicine in England which had already made the schools of Paris, Vienna and Edinburgh famous, but which, as we learn from Dr. Oliver Wendell Holmes, was long

indeed in extending its influence across the ocean to America. What England and her daughter lacked then was, what Sir David Brewster, a president of the British Association, lamented as late as 1840, viz.: "A National Institute wherein men set apart and paid by the nation could devote themselves wholly to the study of science." As neatly expressed by Rev. Mr. Harcourt, the first president of the British Association in 1831: "The mining field of discovery seems to me to show on the one part the ore breaking out on every side, and on the other a multitude of hands ready to work it; but no one engaging them to labor or showing them in what manner they may employ their industry to the best advantage." We have already seen how the century opened with a nation awakened into a new life of industry, whether on farm or in factory. The drain of men to the Napoleonic wars and the constant demand for workers for the arts and manufactures, had supplied abundant labor and high wages in England for all; but with 1815 came a sudden change, which was first to create a state of unprecedented misery and discontent, succeeded by social agitations whose outcome none could see, but which were the precursors of that glorious period of reform of which the sanitary improvement of the people formed so important a part. The cotton trade had, till 1815, with good prices, steadily developed, but now fortunately another great step forward became possible, which, by greatly extending its manufacture, gave employment which lessened the prevailing social misery. The power-loom, hitherto an imperfect success, and machinery for spinning was perfected far beyond the capacity for weaving the yarn into fabrics; while the supply of cotton had been enormously increased by the ingenious invention by Eli Whitney, an American, of the cotton-gin. But the Jacquard loom so increased production that the looms multiplied from 3,000 in 1815 to 30,000 in 1825, and the output from \$2,000,000 to 230,000,000 pounds. On the other hand, some 250,000 hand-loom weavers were being displaced, and ruin and destitution followed. To the discontent caused in this way was to be added that of disbanded soldiers and a farming population, where prices had fallen from 74s. to 43s. per quarter for wheat in three years, while even bread, boots, and salt were taxed. As a result, discontent, rioting, destruction of machinery and violence marked the years succeeding the war, while agitation for reform was spread through a growing free press. Luckily, in William Cobbett was found a reformer who was not a revolutionist, and the "Hampden Club" urged peaceful methods, and especially workingmen's clubs, and found support even amongst the upper and middle classes. The first step forward was in 1823, when the protective Navigation Laws were repealed, and in 1826, even the Corn Laws were modified by the sliding scale; while the introduction of rail-

way legislation in 1823, by which an immense demand for labor and capital was made, served further to lessen the miseries of a long commercial and agricultural depression. Already had Fulton steamed his vessel up the Hudson in 1807, and another crossed the Atlantic in 1819; while George Stevenson was giving a practical value to locomotives, of which one had worked on the roads of Paris as early as 1769, and in 1823 there was a charter given for the first railroad, 40 miles long, built by him and operated by an engine essentially the same as that of to-day.

With such era-making inventions marking the progress of science and the diffusion of knowledge of the universe and the capacity of the human intellect to overcome difficulties, it was natural that society at large should become conscious not only of its needs but also of the right and possibility of having them supplied. Hence in the working classes, among whom the wages still remained low, and the conditions under which they lived showed but little improvement, there grew a deep-set determination to assert and maintain their rights. Trades unions grew apace, and even a Conservative Government gave partial legal rights to these organizations.

2. THE PERIOD OF AGITATION.

The agitation was as always for the recognition of popular rights. The year 1829 saw in England the Catholic Emancipation Bill passed admitting Catholics to the rights of free citizenship, while a Bill for Parliamentary Reform, the agitation for which had convulsed the kingdom from end to end, became law in 1832. In 1833 the results of the long agitation by philanthropists were crystallized in a bill for the abolition of the slave trade in the British colonies; in 1834 the growing evils of pauperism were checked by the enactment of a new Poor Law, while in 1835 the Municipal Corporations' Act restored to the inhabitants of towns those rights of self-government of which they had been deprived since the fourteenth century. The year 1836 saw the passing of an Act giving dissenters the right to civil marriage, and 1839 the appointment of a committee of the Privy Council on Education. But now the long results of all these movements towards social progress were to bear fruit in the application of the newly discovered facts of science to measures of sanitary reform. The echoes of the warnings of Sir John Pringle, given in 1750, regarding the preventable evils under which the troops had suffered in Flanders in 1742 and of the unnecessary mortality from gaol fever, had long since died away; and though it had been shown that scurvy had been prevented on the ship *Resolution* which sailed round the world under Captain Cook, through the use of fruits, and even though Lavoisier had spent weeks in studying the pesti-

lential air of the great sewers of Paris, yet the fatalistic belief in disease as being a punishment of men for their sins, was too deep-seated to enable the isolated scientific facts regarding the preventability of disease to be in any great degree realized. But now the evils resulting from the congested populations of industrial centres were becoming so apparent, and the losses to industry through epidemics of typhus, smallpox and cholera to commerce so positive as to be no longer unnoticed by the growing altruism of a progressive nation. Child-labor, often paid for at a penny a day, had become a monstrous and crying evil; yet workmen were driven by poverty to send one after another of their children into factories, only in the end to beat down their own wages. Children of six and seven years of age often worked twelve hours a day in factories, where the atmosphere, physical and moral, was abominable, and children of both sexes were growing up in a commercial slavery. Agitation in parliament caused a committee of enquiry to be appointed and eminent physicians pointed out that the system meant a mental, moral and physical degradation of the mass of the English people. In the Reform parliament of 1833, the good Lord Shaftesbury became the people's champion, and introduced a bill limiting child-labor to nine years; while the manufacturer raised the cry that with such keen foreign competition English manufactures must be ruined. Although, in spite of the doctrine of *laissez faire*, they succeeded in making the ten-hour period applicable to children of thirteen; yet trade was not ruined, but flourished remarkably in succeeding years. The Government actuary had already stated before a parliamentary committee that, though the social conditions of the middle classes of England had improved, yet their expectation of life had not increased. The subject was brought to the attention of a young lawyer who was interested in such matters, and in 1828 he published a criticism of its conclusions which won the attention of leading social reformers and economists. The name, ever dear to sanitarians, of the lawyer was Edwin Chadwick, who, as stated by his biographer, began the study merely as a question of statistics, but as the labor progressed a new train of reasoning came into his mind, which he called the "sanitary idea;" that is to say, "the idea that a man could, by getting at first principles, and by arriving at causes which affect health, mould life altogether into its natural cast, and beat what hitherto had been accepted as fate, by getting behind fate itself and suppressing the forces which led up to it as their prime source." Other papers on "Preventive Police" and "Public Charities in France" followed, and Chadwick was greeted by old Jeremy Bentham, then in his eighty-second year, as a disciple of his creed that "the work of the legislator is to enable people to live happily." Chadwick, now seized with the

sanitary idea, went slumming in East London and took typhus, and all but became one of the first martyrs to sanitation. He lived, however, to become Secretary of Lord Grey's Poor Law Commission in 1832, and in 1834 we find him installed as permanent Secretary of the New Poor Law Board, having acted in 1833 on the Poor Law Commission, in whose report he succeeded in having inserted a clause dealing with the half-time system, by which those children only could be employed who could present tickets of having spent three hours daily in some school during the previous week. Though the Lords amended these proposals somewhat on the ground that they would lead insidiously to a system of universal national education, yet it was soon found that sixty per cent. of the destitute orphan children were going to Poor Law Schools; and it may be noted that this is the law in successful operation up to the present day in industrial schools in England. Of Chadwick's labors during the next five years, Lord John Russell, the father of so many of these parliamentary reforms, said: "For the relief of the destitute and prevention of pauperism, the improvement of the public health and the physical condition of the population, there was no one to whose zeal and assiduity the country is more indebted than to Mr. Chadwick." But his labors were to bear further fruit. The Dissenters had been urging that the State should undertake the registration of births, marriages and deaths, as well as allow marriages to be celebrated by Dissenting ministers. Chadwick saw in this the opportunity to promote the first great principle of sanitary reform by having the causes of death tabulated, establishing thereby a basis for sanitary study and deduction; while the Government to be relieved of a political agitation, followed the lead of Lord Lyndhurst, and in 1836 passed the Registration Act in large measure as it now exists, and the year 1838 saw that distinguished man, Dr. William Farr, installed as Registrar General. To the study of these returns for the last sixty years, every one of us is prepared to say, in the words of Dr. H. W. Richardson, the biographer of Chadwick: "The proverb that 'pestilence walketh in the dark' is no longer true: pestilence measured and registered, walketh at last in the open day."

We have already referred to the distress and discontent following the Napoleonic wars. These, however, were not all or the greatest of the evils. In 1816, typhus and relapsing fever appeared in the rookeries of London, and became epidemic throughout England. Relapsing fever disappeared in 1819, but typhus remained endemic, again becoming epidemic in 1826-27. The year 1826 saw another disease appear, then unrecognized, but in 1849, through the studies of Drs. Budd and Jenner, it became known as typhoid. But evil followed evil, for the decade between 1830-40 saw Asiatic Cholera advance from Russia to Germany,

and sweep over England in the epidemic of 1832-34; smallpox prevailed in 1836-39, and Russian influenza followed in successive waves in 1831-32. And with this decade, in which the emigration of the population grew in increasing numbers, we see America entering upon those years which were similarly to mark the beginning of State Medicine. Of the period prior to this, Dr. Bowditch, in his "Centennial Discourse" at Philadelphia in 1876, briefly writes: "It is the epoch of systems of medicine wrought out by the imaginations of some few of the leaders of our profession. . . . This epoch believes in drugs, and their almost supreme power over art. It has little or no faith in Nature's ability to cure disease."

With the passing of Dr. Benjamin Rush in 1838, the greatest American physician of his day, this epoch of "Systems of Medicine" in which there was no belief in the *vis medicatrix naturae*, came to an end. The teachings of Louis, a preceptor of Bowditch, were now to influence the medical ideas and practice of the rising generation, and to them Bowditch ascribes the "Basis of Public Hygiene" in America, developed principally by the writings of Bigelow and Bartlett, with Oliver Wendell Holmes.

But to return to England, the scene of the great sanitary agitation, which we have seen, already as being well advanced, we find that the investigation by Chadwick into the conditions favoring the epidemic spread of typhus in London was bearing abundant fruit. Bishop Bloomfield, then of London, realized the full significance of the facts set forth, and threw all his energy and powerful influence into Chadwick's grand sanitary design; and Lord John Russell, in 1839, instructed the Poor Law Commissioners "to institute what afterwards became the far-famed enquiry into the health of the laboring classes of the other parts of England and Wales beyond the metropolis," which report prepared by Chadwick was presented to the Home Secretary in 1842. In the next year this indefatigable secretary prepared papers on "Graveyards of London," and "Intramural Interments and Disinterments," resulting in the compulsory establishment of cemeteries outside towns and cities. The cause was soon to find another champion in that noble man, the Prince Consort, the spokesman of our beloved Queen. Through his great influence assisting the labors of more active reformers, Sir Robert Peel appointed a Royal Commission, consisting of such famous men as Professor Owen, Dr. Lyon Playfair, Mr. Robert Stephenson, Mr. Smith, of Deanston, and Mr. William Cubitt, to report on the whole subject of the health of the nation. This report was published in 1844. Although no immediate legislative action followed, yet in 1847 another Commission with Chadwick as a member was appointed to enquire into the "Sanitary Condition of the Metropolis." The

evidence of thirty-five witnesses therein set forth was most startling in its effects on the public mind. An immediate result was the formation in 1848 of the first Board of Health, of which Lord Shaftesbury and Mr. Chadwick were members. And it was none too soon, since a virulent outbreak of cholera appeared in 1849. It will thus be seen how the "Period of Agitation," together with our "Period of Investigation," employed the energies of the people of England for half a century. But the labors of the ever-increasing band of workers in the fields of pure science had been gaining in force and directness of aim. In 1831 there had assembled at York individuals and members of local scientific societies, and the British Association for the Advancement of Science was organized. In its annual reports, which now for seventy years have appeared, have been collected the labors of workers in every field of science. Referring to the isolated position of workers in the field of science, the first president of the Association expressed a sentiment, yet to be repeated with much force, viz.: "I do not think it is either politic or liberal to keep those who employ their rarest intellectual endowments in the direct service of the country upon a kind of parish allowance;" which was but saying again what Voltaire said of encyclopædist Diderot, who got but £120 for years for his work. "And then to think an army contractor makes £800 a day."

We now pass naturally into the formative period of public health, which we may properly designate

3. THE PERIOD OF LEGISLATION.

The formation of the first Board of Health for the Metropolis served to meet the emergency caused by the outbreaks of typhus and cholera, which marked these years of great political agitation with their Chartist risings and Socialistic organizations, all growing out of the increasing sense of injury and injustice for which in the popular mind the rich were in some way responsible. The year 1845, of the potato famine in Ireland, presents a picture of misery, the memory of which remains with many yet living, and which from the sanitary standpoint proved of extreme importance to this continent. In the year 1847 very many of the sufferers emigrated to the United States and Canada, and the horrors of the voyage, during a passage of many weeks, can now be realized only by a visit to the silent burial-grounds of the quarantine stations of the Atlantic sea-ports. During that fatal summer alone, 8,639 cases of ship-fever and 5,424 interments took place at Grosse Isle in the St. Lawrence, where a monument still stands to the memory of the devoted physicians who died at their posts, ministering to these unfortunates. From the ports the disease spread inland, and to-day the graveyards of many towns along the great inland

waterways, have numerous memorials of the years of the ship-fever; while the cholera of 1849 added still further to the horrors of the sea-voyage and to the dangers of the populations along the great immigrant routes of the St. Lawrence and the Erie Canal.

The first great measure of reform in England, arising out of this condition of affairs, was the abolition of the Corn Laws, described by Lord John Russell as the "blight of commerce, the bane of agriculture, the cause of bitter division among the classes, the cause of penury, fever and crime among the people." How the hopes of the people were lifted up, accompanied by the deep stirrings of the public conscience, may be seen in the literary romances of the time of such writers as Canon Kingsley, in his "Yeast," and "Alton Locke," the one dealing with the conditions of the agricultural laborers and the other with employees of sweat-shops, and of Charles Dickens, who in "Little Dorrit" and "Nicholas Nickleby" makes scathing attacks on the prison system and the Yorkshire proprietary schools. Such are but a few of the influences which gave momentum to the social reforms following financial reforms, the results of the work of Russell, Cobden and Bright. Political changes retarded somewhat the development of the public health measures, instituted by the "Health of Towns Act" of 1849, and of the first Board of Health, whose existence practically ended with the report of 1854, prepared by Chadwick, now Sir Edward. Its work was thereafter placed under the Local Government Board combined with the Poor Law Administration. Of this great sanitary reformer, whose official work now came to an end, the political economist, John Stuart Mill, in writing to him, said: "I need only mention the Sanitary Department, the importance of which, now so widely recognized, you were amongst the very first to press upon a careless public." Under this first Board of Health was appointed Dr. John Simon as the first Medical Officer of Health, and the City of London Reports, 1849-1854, supply us with the first series of public health reports in which the now every-day subjects of "House Drainage," "Public Water Supplies and their Pollution," "Social Position of the Poor and their Overcrowding," "Offensive Trades," "Smoke Nuisances," etc., are systematically dealt with. With the instincts of a general Dr. Simon began in 1853 to prepare for the cholera which again appeared in 1855, and he has given us in the report of that year not only a history of its progress, but the first comprehensive summary of the sanitary conditions upon which the prevalence of cholera depends. I cannot forbear quoting a paragraph which illustrates how the facts developed in the fields of pure science had invaded the field of practical medicine. He says: "Thus, then our position stands. Scientific prediction of phenomena can arise only in the knowledge of laws. That the phenomena of this

disease, however capricious they may seem, are obedient to absolute uniformity as yet beyond our ken, are enchained by that same rigid sequence of cause and effect which is imposed on all remaining Nature, it would be impossible to doubt."

But with regard to larger views on public health, we have only to follow the subjects discussed by Dr. Simon in his five successive London Health Reports. In that of 1854 he especially deals with a subject of intense interest to many members of this Association, viz., the establishment of a Department of Public Health, presided over by a Minister of the Crown. He says: "But at least as regards its constituted head, sitting in Parliament, his department should be, in the widest sense, *to care for the physical necessities of human life.*" Such separate department with its Minister of Health was not to be; nevertheless, the General Board of Health was continued, and we find Dr. Simon again in 1858 addressing the Right Honorable the President of the Board, when making a report based upon the lectures of Dr. Greenhow, lecturer on public health in St. Thomas' Hospital, "On the Present Wasteful Expenditure of Human Life in England." Utilizing the Registrar-General's statistics of annual deaths during the twenty years since the Registration Act was passed, this paper deals with the causes of deaths, pointing out that "thousands of deaths annually result from diseases which are in the most absolute sense preventable," and goes on to point out in detail the different diseases included in this category. Successive annual reports presented new series of facts, each repeating with gathering strength the truths of Preventive Medicine; and we find that the proverb, "*Gutta cavat lapidem.*" was here, as ever, true, for, with the reappearance of cholera and typhus in 1865, public health measures were instituted having a scope hitherto unknown. The Government ordered certain scientific researches to be undertaken; we find medical officers sent to the Continent to study these diseases in the seats of their prevalence, and special investigations instituted in those towns where these diseases had already appeared in England. Expert chemists, too, were engaged in studying the physiology of diseases in man, and now for almost the first time we find governmental intervention in the case of outbreaks of disease in animals. Of these, the most important was that by Prof. Grainger into the causation of rinderpest, which caused enormous losses of cattle both in England and on the Continent. It is in the report of 1869 that we find Dr. Simon first referring to those discoveries which have shed undying glory upon the name of Pasteur. He says: "It will now be seen that the views indicated in Dr. Burdon Sanderson's report with regard to the agencies of morbid infection are the views of Schroeder and M. Pasteur on the agencies of fermentation and putrefaction."

Throughout all this period of legislative progress there has been developing with increasing momentum the influence of those workers in pure science whose early labors have already been referred to in some detail. From time to time workers in the field of natural history had expressed views based upon variations in type through environment of both plants and animals; but not until the "Origin of Species" by Charles Darwin was published in 1859, had any scientific hypothesis capable of accounting for biological evolution been given to the public. In 1863 Thomas Henry Huxley published "Man's Place in Nature," and to these works must be credited much of the growth of that method of thought which has been carried into every field of scientific research during the latter half of the century. To comprehend how the scientific imagination was directed into a hitherto untrodden field, we have to turn to the labors of a school of workers in France, soon to become famous through the discoveries mainly due to the labors of Pasteur, known to his countrymen, as to all others, as "*Le Grand Maître*." He may, indeed, in the Carlylean sense, be called a "Poet of the Unseen." Following as a chemist the studies of Spallanzani and Gay Lussac in the field of fermentation and putrefaction, as applied especially to beer, he was soon attracted by Cagniard-Latour's and Schwann's experiments, proving the relation of the yeast-cells present to beer-fermentation, at a time when Helmholtz had seemingly been forced to again support Liebig's stoutly maintained oxygen theory. But in 1857 Pasteur had established the vitalistic theory beyond question, when he proved the presence of rod-like cells, distinct from yeast-cells, by cultivating a new species of germ in sugar, present also in the souring of milk, wholly apart from albuminoid substances. It became his firm conviction that the fermentative process depended upon the life of the organisms present; and by the introduction of culture solutions gave us the first step in that science which we now term bacteriology. Following this came that other remarkable discovery, that certain organisms to which he gave the name *anaerobes*, were paralyzed by the presence of that very oxygen, which till now had been supposed to be the very essence of fermentative changes in organic substances; and soon proved that the real change was that of the fixation of oxygen during the growth of the bacteria themselves. But this germ theory had many battles to fight before it succeeded against the School of Liebig, especially prominent amongst whom was Pouchet, who taught an old doctrine of spontaneous generation. Not till the battle was renewed in England by Dr. Bastian as late as 1876, again to be driven out of court by the beautiful experiments of Tyndall on germless air, as shown by rays of light, was the germ theory of *omnis cellula a cellula*, or *omne vivum ex ovo*, to take its place as

the discovery which has absolutely transformed medical and surgical practice during the last quarter of the century and given us a practical working basis for that isolation and disinfection in contagious diseases, which has reduced their prevalence and mortality to an extent beyond the most sanguine dreams of the early apostles of the new doctrine.

Never was prophecy being more truly fulfilled than that of Pasteur: "*Il est au pouvoir de l'homme de faire disparaître de la surface du globe les maladies parasitaires, si, comme c'est ma conviction, la doctrine de la generation spontanee est une chimere.*"

All will recall those experiments published first in 1877, when this savant, who, at first with such trepidation, trespassed on the field of Medicine—for as he said he was a chemist, and neither a physician nor veterinarian—gave to the world practically all we to-day know regarding anthrax. As in the field of fermentation, others, as Pollender, Rayer and Davaine, and Robert Koch, had already discovered the rod-like bodies in anthrax blood; but it required the wizard touch of Pasteur to give life and meaning to their studies. Never has romance had more fascination than the story of how Pasteur not only proved the rod-forms to be the cause of the disease, but also showed that the slight difference in the blood temperatures of men, animals and fowls, played a governing part in the propagation of the disease; and finally, as he showed in 1881, that by heat the virus could be attenuated until vaccine could be prepared for inoculation against the disease. In the words of his disciple and assistant, Roux, "Medicine had never before witnessed such perfection in experiments, such rigor in deduction, such certainty of application." His further work in the field of immunity, especially with regard to rabies, is now common knowledge; while millions of francs have been saved to France through inoculating animals with anthrax vaccine, and hundreds of human lives been saved from death through the vaccine against rabies. The establishment in Paris of the Pasteur Institute that magnificent international monument to the genius of the "great master," has become for all of us an oft-told tale. Of him in the closing years of his life an intimate friend has written, after describing his personal appearance: "That is Pasteur as he appeared to me: a conqueror, whose glory is as incalculable as the good he has accomplished."

4. PERIOD OF ELABORATION AND DEVELOPMENT.

As will have been noted, Pasteur's first great discovery, that of the bacillus of anthrax in 1876, marks the beginning of the fourth quarter of the century, which we have designated the Period of Elaboration and Development. This is, too, the period which may

be said to mark the beginning of what we call Listerism in surgery. It was at this time that Tyndall addressed a letter to Pasteur, referring to renewed attacks on the germ theory and speaking of "the inattackable exactitude of your conclusions." It was, too, the year of the Centennial Exhibition in Philadelphia, and the holding of the first Public Health Congress in America, shortly to be followed by the outbreak of yellow fever in the valley of the Mississippi, which hastened the establishment of the National Board of Health—of brief but happy memory—and which gave the impulse, owing to which health boards have been established, in almost every State or Province of North America.

In the Republic of Mexico we also find that while a Supreme Board of Public Health had been formed as early as 1841, placing that republic in the first rank amongst us in recognizing the duty of the State to deal with public health as a national matter; yet, as pointed out by Dr. Orvananos, it was not till that remarkable man, General Diaz, was made President in 1876 that this Board was established on a permanent basis. Thenceforth the evolution of public health work in Mexico has been continuously directed by our confrere, Dr. Liceaga, whose labors during a quarter of a century for his country and for our Science entitle him to a first place amongst the sanitarians of this continent, and indeed of the world. In no country that I am aware of does there exist to-day a more complete sanitary organization, or one in which the legislative, administrative and scientific functions are better co-ordinated or more efficiently carried out.

As the St. Lawrence gateway was that through which cholera was first brought to this continent in 1832, so to the Provinces of Canada belongs the honor of very early health legislation. In 1833 the Legislature of the Province of Upper Canada passed an Act, entitled "An Act to establish Boards of Health and to guard against the introduction of malignant, contagious and infectious diseases in this Province, and for the formation of Local Boards of Health." But as the emergency passed, so the central health authority was discontinued, and not till 1882 was the first Provincial Board of Health, with permanent officers, established in Canada.

In England, the year 1875 marked the Consolidation of Public Health Laws, and their extension to the formation of rural sanitary areas and the bringing of the country districts under the same legislation which had applied hitherto to towns.

While it has seemed well to confine this history of sanitary progress during the century especially to those countries of Europe where its first victories were won, yet it must not be forgotten that the needs of the population of the cities of this rapidly developing continent were not forgotten, though, as appears from Dr. Bow-

ditch's paper in 1876, only in eight of forty-eight states had State legislation dealt seriously with public health matters.

Since then, as illustrated in Dr. Abbott's admirable summary of Public Health progress in the United States during the century, what a change is apparent! To-day in this Association we find representatives of State organizations from almost every State and Province from the Tropics to the Arctic Circle. The three national governments of the United States, Mexico and Canada lend dignity to our councils through their official representatives; and what may be termed a system of Continental Health Observatories are reporting weekly the epidemiological conditions which affect 90,000,000 people. National quarantine services co-operate with State Boards in protecting seaboards of 5,000 miles in extent against foreign invasion of disease, and many thousands of Local Boards of Health are constantly engaged in the routine task of improving local sanitary conditions and suppressing outbreaks of those communicable diseases which formerly spread uncontrolled as epidemics. Thousands of cities, towns and villages, by public waterworks, have caused typhoid fever to become one of the least prevalent diseases, while cholera and yellow fever are rapidly becoming only a memory.

In the field of animal disease, progress on this continent during this Period of Development has been yet more remarkable. Especially have we seen in the Bureau of Animal Industries of the United States the development of the most extended application of science to a branch of sanitation which the world has ever seen. That it has been due primarily rather to commercial than to health considerations need not lessen our admiration for a work, whose progress has been intimately associated with one of the oldest and most active members of this Association. To me the history of this organization embodied in the labors of Dr. Salmon is one of the highest examples of rare combination of scientific methods with executive administration which has ever been witnessed; and one can only conceive what the sanitary progress of the United States might have been had a similar Bureau developed, as has the Imperial Health Institute in Germany, public health, in dealing with the diseases of mankind. I have dwelt already much too long, I fear, on the causes which have made the last twenty-five years the Golden Age of Public Health. Of the innumerable discoveries in the field of biology one need not speak, for are we not all in some degree a part of them? If Germany has its Koch and Loeffler, have we not our own Sternberg and Salmon and Sanarelli? If Haffkine, Kitasato, Roux and Manson have shed glory on our Science in eastern lands through their discoveries, so have Welch, Osler and Councilman lent lustre to experimental medicine on our own continent. In the field of the prae-

tical application of science during these twenty-five years to preventive medicine on this continent, we may reply in the slightly altered motto of one of your States: "*Si quaeris agrum amoenum, circumspice*"—"If you seek a pleasing prospect, look around you." For the century which is ending the task is accomplished. Said Prof. Tyndall in 1875: "Science desires not isolation, but freely combines with every effort towards the bettering of man's estate. Single-handed, and supported not by outward sympathy but by inward force, it has built almost one great wing of the many-mansioned home which man in his totality demands."

But to the thoughtful observer of society, as we find it to-day, with its strife between capital and labor as an unsolved problem, recalling a merciless industrial competition still making many of our people as galley-slaves, living under unsanitary conditions which are our shame, and existing on husks while our granaries are bursting with corn, the dealings of Providence must appear, as they did to Job of old, very incomprehensible. With Carlyle such a one is forced to say, "Did I not believe that an Intelligence is at the heart of things, my life on earth must be intolerable." But for us, with the history of the passing century before us, surely there is room for encouragement. Browning, the poet of Optimism, and a sincere believer in Evolution, insists on the love of the Creator being immanent and operative in human life, and, in spite of the woes and sorrows of mankind, as ever carrying him upward nearer to the moral ideal. As he says in "Paracelsus":

"And, man produced, all has its end thus far :
But, in completed man begins anew
A tendency to God."

For us as scientific workers, who have been students of the world-processes in the æons which have caused, as Tennyson calls it, "this fine old world of ours," to rise out of chaos, it ought not to be difficult to take courage from what we have seen this century to have accomplished in the field of our own Science, even though it be but a stone in the edifice. Shall we not enter upon the work of another century with perfect faith as to the ultimate results, trusting in the words of Tennyson:

"O yet we trust that somehow good
Will be the final goal of ill,
To pangs of nature, sins of will,
Defects of doubt and taints of blood ;

"That nothing walks with aimless feet ;
That not one life shall be destroyed,
Or cast as rubbish to the void
When God has made the pile complete."

ABSTRACT OF THE PROPOSED BILL FOR THE TREATMENT OF DRUNKARDS.

THE main provisions of this bill are as follows: In all cities of Ontario having a population of 20,000 or over, the Police Commissioners are empowered to appoint a Probation Officer, to take the supervision of drunkards placed on probation by the Court on suspended sentence. These officers are not to be members of the police force, and they are to act more in the capacity of friendly visitors than as informers. They shall also assist the probationer in finding employment when necessary. It will be their duty to investigate, for the information of the Court, the previous record of persons arrested for drunkenness, and to keep records of such investigations, and also of all cases placed on probation. In cases where a fine has been imposed by the Court, this fine may be paid in instalments by the probationer to the probation officer while the person is on probation.

A Medical Superintendent shall be appointed by the Government to inaugurate and superintend the medical treatment of inebriates and dipsomaniacs, and to assist in establishing, for their treatment, cottage hospitals and special wards in general hospitals throughout the Province. He shall also make local arrangements for the administration of home treatment in suitable cases. The Superintendent and Probation Officers shall co-operate in the work of reformation.

Government grants to promote the medical treatment of dipsomaniacs and inebriates may be made as follows: Cottage Hospitals specially established for the reception and treatment of drunkards, or wards in general hospitals specially equipped for this purpose, shall receive, as a bonus, 25 per cent. of the cost of building or special equipment, as the case may be; secondly, a special grant of ten cents a day over and above the usual *per capita* grant to all hospital patients, shall be allowed in cases of chronic dipsomania; and thirdly, an extra grant of 40 cents a day shall be allowed for a period of seven days, for cases of acute alcoholism. The medical treatment not to be considered as a charity, but as a loan to be repaid subsequent to treatment and while the person is still on probation.

Able-bodied chronic drunkards, instead of being fined or sent to jail, shall be sent to the Central Prison for not less than six months, and all subsequent sentences to be cumulative. Able-bodied female drunkards shall be sent to the Mercer Reformatory on cumulative sentences. Chronic drunkards, male or female,

not able-bodied, may be provided for in County or City Houses of Refuge.

Three physicians of standing in the Province may be appointed by the Government, as a Committee of Consultation, to co-operate without salary, with the Superintendent, in inaugurating and carrying out the purposes of this bill.

Excerpts from the Report of an Advisory Committee appointed by the Hon. Josiah Quincy, Mayor of Boston in 1899, on the Penal Aspects of Drunkenness.

No aspect of the present methods of dealing with drunkenness is so hopeful in its results as the work of probation officers. Fortunately, also, none is more universally commended, or more capable of immediate improvement and extension.

The probation officer, it will be observed, is a direct appointee of the court, and responsible solely to the court. His functions may be described as essentially twofold; he may be regarded as the confidential agent and adviser of the court, on the one hand, and of the prisoner on the other.

The probation officer thus stands for leniency, for another opportunity to escape the personal disgrace and the vicarious suffering of family and friends which imprisonment or fine, or both, must often involve; he stands for another chance at reformation under the powerful stimulus of the personal, friendly guardianship of an officer of the law; for another chance to strengthen the will and develop the power of self-control, aided by the most effective deterrent yet devised—conditional and suspended punishment. For experience shows conclusively that a paternal solicitude which is invested with the dignity of the law and the authority of the courts often has weight and influence where the ordinary and unofficial forms of moral suasion are of no avail.

In the midst of such conflict of opinion and apparent contradiction in fact, it is a source of profound satisfaction to find on all sides a cordial agreement in regard to a matter of fundamental importance. Such agreement it is the satisfaction of this committee to report in regard to what is known as the probation system.

The venerable Chief Justice of the Municipal Court has unhesitatingly given the full weight of his authority and prolonged experience in favor of an extended use of probation officers and of improvement in present methods of dealing with drunkards. The same weighty and convincing verdict of approval is rendered by the judges who have had largest experience and best opportunities to test the efficacy of probation. No one can question the weight

of such endorsement by judges who are in daily contact with the probation officers; who are constantly receiving their assistance in the disposition of cases; who are continually confronted by the visible evidence of improvement which a term of probation has wrought in the appearance and conduct of men and women who are brought before the court at stated periods for inspection, extension of probation, or discharge.

A similar consensus of opinion has been found among police captains and other officers; some of them frankly confess that the attitude of conservatism or avowed distrust with which they regarded this innovation in the beginning has been converted into a cordial co-operation, while probation officers in their turn, ascribe much of their success to the ready assistance afforded them by the police.

The heads of penal institutions, the chaplains and other officers whose constant dealing with drunkards and misdemeanants entitles them to speak as experts in regard to the effect of various forms of discipline, also commend the use of probation for a large class of offenders as a substitute for the dangerous and demoralizing alternative of imprisonment under conditions of companionship, which at best must tend to confirm rather than reform evil ways. From such officials also come the frequent appeal for an extension of the principle of probation to what are known as PAROLE CASES, in order that the larger class of offenders who are granted permits to be at liberty before the expiration of their full sentence, may also have the benefit of the deterrent and reformatory influence of personal and friendly watchfulness by a representative of the court.

DR. FIFE FOWLER, who has been connected with Queen's University Medical Department, Kingston, for fifty years, has resigned the professorship of the practice of medicine. Dr. James Third, late Superintendent of the Kingston General Hospital, is his successor. Dr. Fowler retains the position of Dean of the Faculty.

THE Eye, Ear and Throat Hospital, at Buffalo, N.Y., has installed the largest magnetic apparatus in the country for drawing steel or iron from the eye. Mounted on a stand of brass and iron it weighs about four hundred pounds, the magnetizer is 35 inches long and pointed at both ends, and the coil consists of 21,000 turns of copper wire, which, if charged with 500 volts, will furnish volts sufficient to support a ton weight. This instrument is an improved Haab magnet, and cost in the neighborhood of \$300.00. —*Phila. Med. Jour.*

REPORT OF DEATHS FROM ALL DISEASES AND FROM CONTAGIOUS DISEASES IN ONTARIO FOR THE MONTHS OF AUGUST AND SEPTEMBER, 1900.

PREPARED BY P. H. BRYCE, M.A., M.D., DEPUTY REGISTRAR-GENERAL.

AUGUST, 1900.

Total Population Reporting.	Total Municipalities Reporting.	Total Deaths Reported.	Rate per 1000 per annum from all causes.	Scarlatina.	Diphtheria.	Rate per 1,000 per Annum.	Measles.	Rate per 1,000 per Annum.	Whooping Cough.	Rate per 1,000 per Annum.	Typhoid.	Rate per 1,000 per Annum.	Tuberculosis.	Rate per 1,000 per Annum.
2,271,860 99%	768 98%	2,371	12.5	8	31	0.1	1	0.005	14	0.7	44	0.2	180	0.9

SEPTEMBER, 1900.

2,270,150 98%	715 92%	2,490	13.1	3	42	0.2	2	0.01	20	0.1	58	0.3	172	0.9
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Population of Province 2,983,182
Registration Divisions of Province..... 777

Oral Surgery.

IN CHARGE OF
E. H. ADAMS, M.D., D.D.S.

CASE OF FRACTURED LOWER JAW.*

BY JOHN G. HARPER, D.D.S., ST. LOUIS, MO.

WHEN called upon by the executive committee, I had charge of a patient with a broken lower jaw, and gave the title, "A Case of Fracture of the Lower Jaw," but the programme was put forth with "Care of Fracture of Lower Jaw." This title suggests a broader subject.

Who should have charge of such cases, the general surgeon, or the surgeon dentist? All of these cases fall first into the hands of an M.D., who as a rule calls in a surgeon. The reason for this procedure is generally due to ignorance regarding the ability of dentists in treating such cases, also very few public institutions have a dentist connected with them. The surgeon uses bandages and does not expect to restore the original articulation existing previous to the fracture.

What is the remedy for this state of affairs? Recently the appointment of dentists to the army has been urged. Military men favor the movement, as they have felt the need of the services of the dentist in caring for their teeth. In time of peace soldiers are perhaps more subject to accidents than citizens. The accident may result in a broken jaw. Should dentists be appointed to the army, then our hospitals would awake to the need of our services.

But few dentists have paid enough attention to this branch. Given an opportunity, men would be stimulated to qualify for such practice.

It is useless to tell dentists they are the men to take charge of the class of cases under discussion. Only the dentist can construct and apply an interdental splint. Bandaging or wiring together the broken bone does not appeal to the dentist as the most desirable mode of procedure. Here I wish to ask a question. What would you do in case you were called in to assist or take charge of a case of fracture of the lower jaw?

To those who wish to become posted upon what I consider the best means of managing such cases, I would recommend the study

* Read before the St. Louis Dental Society, October 10th, 1899.

of "Fracture of the Maxilla" in "Angle's System of Regulation and Retention of the Teeth and Treatment of Fractures of the Maxilla."

In case of fracture, about three weeks is generally sufficient for the bone to unite and be firm enough to allow the splint to be removed.

I see by the history of seven cases of fracture of the maxilla given by Dr. Angle that the time varies from twenty days to one hundred and twenty, the average being almost forty-five days. These facts are given as an aid in the prognosis.

In case the fracture occurs posterior to the molars it is necessary to resort to fracture bands, the broken jaw by their aid being wired together. In case the break is in the anterior portion of the jaw the fractured bone can be held in position by the application of the expansion arch, the same that is used in regulating teeth, a number of the teeth being wired or ligated to the expansion arch.

CASE.—About December 1st, 1898, a locomotive engineer made a miscalculation in jumping off a moving train. He was thrown against a car on a sidetrack with such force that his lower jaw was broken at the site of the left central incisor, the fracture being oblique, pointing inward. The railroad surgeon was able to reduce the fracture by wiring the teeth together, but could not retain the parts in position for any length of time.

December 6th the patient was brought to me. Models of both jaws were made. The model of the broken jaw was sawed in two, and an attempt made to adjust the parts so as to represent the jaw previous to being fractured. This could not be done with satisfaction. The first idea was to make an interdental splint of rubber or aluminum. Dr. James P. Harper, who had seen the case, suggested using the Angle expansion arch. With his aid and that of Dr. Grinstead, the railroad surgeon, the appliance was put in place and the fractured parts brought in apposition. The left first and second bicuspid were wired to the expansion arch, to bring forward the left side of the jaw; a wire ligature was passed around the tip of the right lateral (which was a little longer than the two proximal teeth) and around the expansion arch; this, when tightened, brought up the left part into line. Previous to the application of the fixtures there had been considerable constant pain, which disappeared. The parts seemed to be immovable under ordinary use, but moved slightly when the mouth was open to extreme limit.

The patient resumed his vocation in about three weeks after the appliance was put in place. He visited me once in four weeks until May 17th, when the appliance was removed, which might have been done much sooner, but he preferred to have it remain as a safeguard.

Previous to the accident the occlusion was abnormal, the bicuspids on left side not coming in contact, also the first on the right side, the second superior on right occluded its posterior half of occlusal surface on first molar.

At time of adjustment of appliance the left central was quite loose, and in a few days a portion of the alveolar process on labial surface was removed followed in a few days by the loss of the tooth itself.

The model of the lower jaw made after the removal of the appliance shows that the space occupied by the missing tooth is obliterated by contraction of the point of fracture. The articulation is evidently as good as it was previous to the accident.

In conclusion, I quote the last paragraph from Dr. Angle's book previously mentioned.

"Finally, as all the apparatus possessing any special merit in the treatment of fractures of the maxillæ have been invented by dentists, and their familiarity with the parts, special knowledge of mechanics, and facilities at their command fit them above all other surgeons for this work, I would recommend that the different dental societies throughout the country shall secure appointment of competent dentists, in all hospitals, for the treatment of these lesions, for to them this special line of surgery justly belongs."

E. H. A.

MICRO-ORGANISMS OF THE MOUTH OF THE NEW-BORN.

GIUSEPPE CAMPO (*Pediatrics*, Naples, vii., 229, August, 1899) has carried out a series of researches on the micro-organisms of the mouth of the new-born in order to ascertain (1) if the mouth at the moment of birth is free from germs; (2) the development of germs along with the establishment of the primary functions of life; and (3) the isolation of them and their pathogenic action. Reference is made to the work of Vignal, Biondi, Sanarelli, Freund, and Kreibohm, and the methods used are described. The contents of the mouth were taken at the moment of birth (the head of the infant being still on the perineum), four hours later when respiration had been going on, and twenty-four hours later when lactation had been commenced. Ten infants were examined at these three times, and twenty-one others were examined at one or other of the times named. Campo concludes that the mouth is sterile at the time of birth, for out of twenty-one cases in which the buccal contents were examined at the moment of birth, in six no germs were found; the fifteen cases in which organisms were found do not in his opinion invalidate the conclusion, for in some of these the contents were collected by the midwife in

attendance, and in others it may be that germs gained entrance from the maternal vagina during labor. The effect of respiration was that the mouth immediately lost its asepticity, and sixteen observations made about four hours after birth demonstrated that the ordinary bacteria of the air find in the mouth a suitable soil, and multiply with great rapidity; they were the *Bacillus mesentericus vulgatus*, the *Bacterium termo*, and the *Bacillus ulna*. The first effect of lactation was found to be a diminution in the number of germs, possibly due to the mother's milk washing them downward into the gastro-intestinal tract; but its second effect seemed to be to increase the number of the kinds of germs met with. This effect Campo thinks is the result not of new varieties being introduced in the milk, for the milk direct from the breast is sterile, but of a power conferred by the milk upon the buccal contents of growing new kinds of germs. The organisms found were, in order of frequency, the *Bacillus mesentericus vulgatus*, the *Bacterium termo*, the *Bacillus ulna*, *subtilis*, *leptothrix*, and *lineola* (?), and three non-identified germs, to which the names of bacillus *x*, and coccus *y* and *z*, have been given. It was further discovered that none of these micro-organisms had any pathogenic properties, for intra-peritoneal injections of cultures of them into guinea-pigs did not produce any phenomena indicating virulence, save a slight diminution of the body weight. The characters of the non-identified germs and their cultures are fully described; bacillus *x* and coccus *z* caused passing loss in weight.—*British Med. Journal*.

IN the *Journal of the American Medical Association*, Sept. 1st, Dr. Stone has recorded a case of keratolysis, or skin-shedding, in a strong, healthy man of fifty years of age, who shed his skin every year. This curious affection has been spoken of as "analogous to the moulting of birds."

A MEDICAL PEER IN THE UNITED STATES.—The death is announced of Dr. Fairfax, of Maryland, who was the eleventh Baron Fairfax of Cameron in the peerage of Scotland. He was born in Virginia, and, according to the *Brit. Med. Jour.*, it was from the Fairfax family settlement in America that Thackeray drew the inspiration for "The Virginians."

POISON IVY.—Dr. Pfaff, of Harvard, has investigated the poison of *Rhus radicans* and finds it to be a non-volatile oil, present in every part of the plant, which cannot be washed off the skin with water alone. It is said that a remedy has been discovered in the form of a solution of alcohol, of 50 to 75 per cent. strength, and sugar of lead; and that its efficacy has been tested by the Department of Agriculture.—*Med. News*.

Selected Articles.

TRIBUTE TO THE MEMORY OF HUNTER HOLMES McGUIRE, M.D., LL.D.

At a called meeting of the Richmond Academy of Medicine and Surgery, September 20th, the following resolutions were adopted:

But two short weeks have passed, and for the third time the hand of the grim destroyer has been abroad in our midst. Not yet recovered from the keenness of our first sorrows, we are summoned to lament the loss of the leader in our ranks. Hunter McGuire has answered his last roll-call; and we, his fellow soldiers in the battle of life, desire to place on record a simple testimonial to the splendid example which a study of his well-rounded work must furnish to all thinking men, of how the heart-treasures of courage in the presence of adversity, and unswerving purpose to mould character by the rule of right, inspiring and impelling a mind broad in natural scope and cultured by study and travel and deep reflection, must bring their guerdon of success in every field or labor.

God endowed him with great natural gifts of head and heart, and great opportunities came into his life. He had power to comprehend and to adapt them to the needs of every occasion. He has left his stamp on this community, on us as a local profession, and on the professional world. Tenderly we treasure his memory; deeply we mourn his loss; but we do not "mourn as even without hope." His example is a precious heritage, an inspiration to young and old, and, therefore, thankfully acknowledging the goodness of God in honoring the profession of medicine with a man whose life-work may worthily be emulated, and obediently accepting the decrees of Divinity in all things as the decrees of wisdom, we bow with humble submission and say, "Thy will be done."

We tender the assurance of our gentlest sympathies to his sorrowing household.

That a copy of these resolutions be spread on the minutes of the Richmond Academy of Medicine and Surgery and given to the press for publication.

(Signed)

GEORGE ROSS, M.D., *Chairman.*
WM. S. GORDON, M.D.
LONDON B. EDWARDS, M.D.
H. H. LEVY, M.D.
MOSES D. HOGE, M.D.

In offering the resolutions above, Dr. Ross, as chairman, delivered one of the most touching and glowing tributes possibly ever heard in the Academy's hall. Dr. Ross said:

In presenting these resolutions I want to say: Silence has been called golden. Sealed lips may conceal the sorrows and suffering of an aching heart; but for me to sit silent in this presence and on this occasion would be to brand myself false to friendship—false to every emotion that moves my soul. I cannot consent to wear the mask of forgetfulness.

Death's messenger has been busy thinning the ranks of the medical profession of this city during the past twelve months. That fearless and self-sacrificing physician, erstwhile the dashing Christian soldier-artillerist, W. W. Parker; the modest, manly, honest, and always-to-be-counted-on John F. Jackson; the quiet, well-equipped and unobtrusive teacher-physician, Richmond Lewis; the knightly, gracious young physician, just budding into professional prominence, J. Travis Taylor, and that plumb-line doctor, Benjamin Harrison, have each answered the summons calling them up higher, and heard the welcome greeting, "Well done, good and faithful servant."

Death loves a shining mark. To-day we are assembled to do honor to the memory of one of whom it may justly be written, he was the most brilliant luminary in the medical constellation of the South.

Hunter McGuire, the gifted surgeon, is dead! His name is part and parcel of American surgical history. It is the synonym for accuracy in surgical diagnosis and skill in surgical technique. Wherever the English language is spoken and medical men gather for the discussion of surgical subjects, a quotation from his pen or tongue carries such conviction as few names could evoke. His personality was most charming, and, though singularly free from the grace of manner so coveted by many in social life, he won all hearts by his simplicity, his directness, his earnestness, his unostentatiousness. At various times of his life he was a professor in three medical colleges, and died serving one. I feel safe in asserting that his strong personality and wide reputation were the most potential factors in the upbuilding of the University College of Medicine to its present conspicuous position. No teacher more instructive or more pleasing ever lectured to a class, and no man ever more genuinely enjoyed the affection and confidence of his pupils. In the amphitheatre they hung on his words, and when later on they became busy workers in professional life it was from him that they sought counsel by correspondence, and into his hands committed their obscure and complex cases for treatment. His generosity was limited only by the opportunities for dispensing it. His hand was always ready to do service for the poor and

needy, "without money and without price," and his purse-strings were never tightened when the privilege of giving was extended to him. No man could count more on stauncher friends, and no man more richly deserves their confidence. He was gifted with rare executive ability and an irresistible personal magnetism. Without these qualities he could never have commanded the following that made it possible for him to empty the medical schools of Philadelphia of Southern students in 1860, and subsequently to grow, step by step, with "Stonewall" Jackson; to be the ideal medical director and organizer of the surgical department of the great army corps of that chief of heroes in modern military history. He measured up to every responsibility laid upon him, from the morning of life until the shadows of life's evening fell suddenly upon him. He began his career in this community after he had heard the requiem march sounding the death-knell of the Southern Confederacy on the field of Appomattox, and from the first day that he sought to serve this people until the day when he was driven to his own door, speechless, stricken with paralysis in his buggy—save a needed summer vacation, there was no let-up in his work. He courted a generous rivalry, because it was a stimulus to the development of his genius, of the possession of which he had an inner consciousness, but his character is untarnished by envy of his rival's successes. His will was indomitable—his energy exhaustless. *Excelsior!* was his motto. *Excelsior* was the goal he attained to. Now he sleeps—fallen asleep in the shade beneath the trees of his quiet suburban home. Stilled for all time are his busy brain and tender heart and willing hands.

They've shrouded him—they'll bury him ;
The dirge will cease its sounds ;
The footsteps of the sorrowing
Turn sadly from the grounds.

They'll bury him—the soldiers' friend
In days of bitter strife,
When sons of North and South arrayed,
Fought for their nation's life.

They'll bury him whose earnest face,
When Peace had spread her wings,
Was messenger that gladdened homes,
So hope about him clings.

They'll bury him—a noble son
Of famed Virginia's soil ;
Physician born of classic mien,
High bred, in godlike toil.

They'll bury him whose broad'ning fame
Begirts the lands and seas ;
Who filled in every audience hall
The foremost place with ease.

They'll bury him—yes, mortal part,
But still his spirit lives,
And to the scientific world
Glad inspiration gives.

Dr. Ross was the life-long companion and most intimate friend of Dr. McGuire, and the beautiful tribute which he offered, ending with poetic lines so touching, will ever be counted a monument to the memory of one we all loved so well.

B. L. R.

THE NEW TREATMENT OF SYPHILIS WITH BIN- IODIZED OIL.

BY DR. P. CHAPELLE, PARIS.

THE "specific bin-iodized oil," recommended by Panas, Dieulafoy, Lancereaux, Brissaud, Fournier, and the leading specialists for the diseases of the skin, is a very dilute and unsatisfactory preparation, but a great improvement in the administration of mercury has been recently made, by utilizing the solubility of *nascent mercuric iodide* in a strictly neutral aseptic oil, which keeps indefinitely.

This "specific bin-iodized oil," which contains one per cent. of HgI_2 , has been aptly called cypridol (a name which gives no clue to the patient or to those around him as to the nature of the medicament), can be used either hypodermically or taken in capsules.

Cypridol is vastly superior to the usual soluble or insoluble mercurials, the assimilation and subsequent elimination of which is uncertain, while salivation, vomiting and diarrhea are amongst the least of their disadvantages.

Since Ricord's time, insoluble mercurial treatment has been largely adopted on account of the severity of the soluble salts, but their assimilation is slow, irregular, and gives rise to considerable trouble in the alimentary canal, even when given in combination with small doses of opium. All disadvantages of this nature, which are inevitable with soluble and insoluble mercurial preparations, are avoided with cypridol, which does not affect the stomach or digestive organs, and rarely produces salivation, even in massive doses. It is conveniently exhibited in capsules of 20 centigrammes each of which represents exactly *1-32nd of a grain of mercuric iodide*.

One capsule should be taken with the two principal meals daily, and this dose may be increased to five capsules daily, but should not be exceeded, except under special conditions dependent on the susceptibility of the patient to the treatment.

Our experience in the clinics shows that it is advisable to commence the treatment of the capsules or injections of cypridol (or to alternate their administration) as soon as syphilis is recognized and to continue it for three consecutive years, even if there is an apparent cure after a short time.

During the first three months, the treatment may be suspended eight days every month, during which interval, small doses of iodide of potassium, sodium or strontium are given.

For the following three months, the cypridol treatment should be administered every alternate fortnight, and after that, eight days of each succeeding month.

This radical treatment with cypridol will insure the patient's permanent cure; it is indispensable, however, to maintain the best hygienic conditions of life.

Frequent, but not too prolonged hot baths; washing, to free the skin from irritation, are useful, and care should be taken to keep the buccal cavity exceptionally clean by careful washing and gargling of the throat with boracic acid and chlorate of potassium. An ointment of the same should be used to anoint the genital and anal orifices.

The great antiseptic and antizymotic value of cypridol can be utilized in a great number of cases.

It constitutes an excellent specific for bacteriological affections or parasites of the alimentary canal, the skin and the scalp, and is indicated in the treatment of serous affections, fistulas, cold abscesses, white tumors (in hip, knee, ankle), lupus, spina ventosa and other manifestations of tuberculosis.

Successful experiments have been made in the Paris Hospitals on neoplasms, anthrax, furunculosis, paludal intoxication, and in the great majority of epidemic diseases.—*Selected.*

ADVANTAGES OF THE SPRAY IN PSEUDO-MEMBRANES OF THE PHARYNX.

BY D. C. BROWN, M.D., DANBURY, CONN.

On the exposed surface of the pseudo-membrane in diphtheria, the diphtheria bacilli mass in abundance, *reproducing* themselves and generating toxins; while, penetrating the membrane to its middle layers, the mixed or single form of pyogenic cocci are found, or may even enter the organized tissues themselves. Drawn up to oppose the entrance of these foreign forces the organism has thrown out, from its side of the membrane, an army of phagocytes, with their "forlorn hope" of alexins, who engage the foe

in "mortal combat" until the battle is lost or won. Experience has proven, however, that these forces of nature are inadequate to protect the organism from invasion and are only partially able to subdue the enemy after he has gained a foothold, *especially while he is thus drawing from a rich base of supplies and recruits*. They (the phagocytes), on the other hand, have advanced further and further from their base of supplies and at length have penetrated the enemy's lines so far that his toxic influence is too great for them and they succumb.

It is, therefore, with the spray, better than any other means, that we may attack the enemy in the rear, destroy his supplies and prevent the recruits from joining the line of battle. Irrigation fails to give the penetrating power necessary to get to the middle layer of the pseudo-membrane. It and gargles are good for cleansing, but I fail to see the reason for the oblivion to which modern teaching has consigned the spray. I admit that harm may be done with it, and that the child fights against it; but the same objections hold good against irrigation, and the young cannot gargle. I avoid spraying the uvula unless covered with a pseudo-membrane, and in fact avoid any healthy membrane with the direct force of the spray, for I aim to get force enough to see the tissues splay out with the spray.

Personally, I have two favorite solutions which I rely upon to be used as sprays in accordance with the individual case. The first is hydrozone, and I direct that the nurse put two teaspoonfuls with three to eight teaspoonfuls of water and use at first every half hour or hour. I use this especially in all denser membranes, that the hydrozone may break up and disinfect the middle layers of the pseudo-membrane. It makes a way for other antiseptics which may be subsequently used.

The second spray is a solution of formaldehyde, directed to be used as follows:

R Sol. formaldehyde, $\frac{1}{4}\%$	30-60.	$\overline{5j}$ - $\overline{5ij}$
Kal. chlor.	8.	$\overline{5ij}$
Acid. boric	4.	$\overline{5j}$
Glycerine.....	15.	$\overline{5ss}$
Aq. ad	120.	$\overline{5iv}$

M. Sig.—Use in spray after hydrozone.

This I make the standby, and vary the strength according to the conditions, and continue with it when the pseudo-membrane has become so thin that I do not care to continue with the hydrozone. Remembering the middle layers of the pseudo-membrane and the depths of the crypts, I shoot hard and quick, and resort to the spray early, and very often do not have to use the antitoxin.—Abstract from the *New England Medical Monthly*, January, 1900.



"Has Crossed the Bar."

BUT yesterday the great British Nation made the world resound with its cheer and shout of "Long Live the Queen"—it was the Jubilee year of the reign of a Woman, a queenly woman. To-day the world receives in solemn silence the message of the passing of the great soul from earth—Victoria is dead.

Above the regal splendor, the dignity and pomp, and in the full glare of the light that beats about the Throne of England, rose its sceptre, held by a woman's hand, steadfastly, immovably, for over sixty-three years. On a woman's head shone a diadem whose setting of richest gems was ever lustreless beside the purity and nobility of the brow they were deemed worthy to adorn.

As Sovereign Lady and Queen, the world knelt in homage. As wife, the world bowed in admiration. As widow, the world paused in reverent sympathy and read the words inscribed on the mausoleum of the Prince Consort, "Here at last I shall rest with thee; with thee in Christ shall rise again." As mother, the world blessed her and thanked her, for she has given to the great British Empire its King, Edward VII. She has left His Majesty the most noble example of a spotless life; and to her loyal subjects and the world she has bequeathed the memory of a reign that has stood alone, without a peer or a precedent in the history of the universe—the Victorian Era.

W. A. Y.

The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,

Ed. FOR,

69 BLOOR STREET EAST, TORONTO.

W. A. YOUNG, M.D., L.R.C.P. LOND.,

BUSINESS MANAGER,

145 COLLEGE STREET, TORONTO.

Surgery—BRUCE L. RIORDAN, M.D., C.M., McGill University; M.D. University of Toronto; Surgeon Toronto General Hospital; Surgeon Grand Trunk R.R.; Consulting Surgeon Toronto Home for Incurables; Pension Examiner United States Government; and F. N. G. STARR, M.B., Toronto, Associate Professor of Clinical Surgery, Lecturer and Demonstrator in Anatomy, Toronto University; Surgeon to the Outdoor Department Toronto General Hospital and Hospital for Sick Children.

Clinical Surgery—ALEX. PRIMROSE, M.B., C.M. Edinburgh University; Professor of Anatomy and Director of the Anatomical Department, Toronto University; Associate Professor of Clinical Surgery, Toronto University; Secretary Medical Faculty, Toronto University.

Orthopedic Surgery—B. E. MCKENZIE, B.A., M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Surgeon to the Out-Patient Department, Toronto General Hospital; Assistant Professor of Clinical Surgery, Ontario Medical College for Women; Member of the American Orthopedic Association; and H. P. H. GALLOWAY, M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Orthopedic Surgeon, Toronto Western Hospital; Member of the American Orthopedic Association.

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Medical Jurisprudence and Toxicology—N. A. POWELL, M.D., Toronto, and W. A. YOUNG, M.D., L.R.C.P. Lond., Toronto.

Medicine—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health, Consulting Surgeon, Toronto General Hospital; and W. J. WILSON, M.D., Toronto, Physician Toronto Western Hospital.

Clinical Medicine—ALEXANDER MCPHEDRAN, M.D., Professor of Medicine and Clinical Medicine Toronto University; Physician Toronto General Hospital, St. Michael's Hospital, and Victoria Hospital for Sick Children.

Mental Diseases—EZRA H. STAFFORD, M.D., Toronto, Resident Physician Toronto Asylum for the Insane.

Public Health and Hygiene—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon Toronto General Hospital; and E. H. ADAMS, M.D., Toronto.

Pharmacology and Therapeutics—A. J. HARRINGTON, M.D., M.R.C.S. Eng., Toronto.

Physiology—A. B. EADIE, M.D., Toronto, Professor of Physiology Woman's Medical College, Toronto.

Pediatrics—AUGUSTA STOWE GUILLEN, M.D., Toronto, Professor of Diseases of Children Woman's Medical College, Toronto.

Pathology—W. H. PEPLER, M.D., C.M., Trinity University; Pathologist Hospital for Sick Children, Toronto; Demonstrator of Pathology Trinity Medical College; Physician to Outdoor Department Toronto General Hospital; Surgeon Canadian Pacific R.R., Toronto; and J. J. MCKENZIE, B.A., M.B., Professor of Pathology and Bacteriology, Toronto University Medical Faculty.

Ophthalmology and Otolaryngology—J. M. MACCALLUM, M.D., Toronto, Assistant Physician Toronto General Hospital; Oculist and Aurist Victoria Hospital for Sick Children, Toronto.

Address all Communications, Correspondence, Books, Matter Regarding Advertising, and make all Cheques, Drafts and Post-office Orders payable to "The Canadian Journal of Medicine and Surgery," 145 College St., Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the fifteenth of the month previous to publication.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the tenth of the preceding month.

VOL. IX.

TORONTO, FEBRUARY, 1901.

NO. 2.

Editorials.

ENGLISH AND CANADIAN BEERS COMPARED.

WE notice in the Associated Press despatches, January 11th, that the British Government has appointed a commission, of which Lord Kelvin, President of the Royal Society of Edinburgh, is President, to investigate the beer-poisoning epidemic in Manchester and District. The Commission is specially instructed to inquire into the presence of arsenic in beer and other drinks and

foods, and to report how the presence of the poison can be prevented. This subject was first brought to the attention of medical readers outside of England in an article entitled "An Epidemic of Peripheral Neuritis among Beer-drinkers in Manchester and District," by Ernest S. Reynolds, M.D., F.R.C.P., which appeared in the *British Medical Journal*, November 24th, 1900. He stated that for three months prior to the appearance of his article an unusual number of patients had presented themselves at the out-patient department of the Manchester Royal Infirmary suffering from symptoms of peripheral neuritis, and that a very large number of similar cases were under treatment in the medical wards of the Manchester Workhouse Infirmary during the same period. Other practitioners met with the same unusual prevalence of peripheral neuritis. Dr. Williamson found that nearly half of the out-patients of the Ancoats Hospital showed signs of the disease. Dr. Dreschfeld had also noticed the unusual prevalence of neuritis, and medical men practising not only in Manchester, but in Salford and the surrounding districts, had recently seen many cases of this type. Dr. Brooke, lecturer on Dermatology at Owens College, had been struck with the great number of cases which, during the last three months, had presented a peculiar skin eruption characterized by marked pigmentation either diffused or in spots. Dr. Reynolds satisfied himself that the cases occurred only among beer-drinkers, and that alcohol could not be the only factor in the production of neuritis, and certainly not in the production of the pigment. He also stated that he had found arsenic in samples of beer, and his analysis had been confirmed by Professor Dixon Mann. As to how arsenic could have got into the beer, Dr. Reynolds at first suggested that it might be derived from arsenic in the sulphur used in the hop industry; but in a subsequent letter he negatived this opinion.

The report of Dr. Niven, M.O.H., Manchester, which appeared in the *British Medical Journal*, December 15th, 1900, showed that there had been a remarkable increase in the number of deaths attributed to peripheral neuritis, to alcoholism and cirrhosis of the liver, in the first eleven months of 1900, as compared with the twelve months of 1899; but that an analysis of the figures for these periods taken together with those of 1897 and 1898, gave grounds for supposing that the causes which had brought about the epidemic operated also in 1898 and 1899. During the last

months of 1900, many physicians practising in Manchester and District had noticed that a great many patients suffering from peripheral neuritis asked for advice and treatment. The prominent symptoms were great tenderness of the skin and muscles, sensations of numbness and tingling, with tenderness and signs of irritation in the conjunctivæ, bronzing of the skin, and eruptions of herpes and erythema, all of which pointed to poisoning by arsenic rather than to the toxic effects of alcohol. As all these patients were habitual beer-drinkers, the advisability of examining the beer used by them occurred to the physicians, and the question was finally settled by Dr. Reynolds and Professor Dixon Mann finding arsenic on making chemical analysis of different samples of beer.

Subsequently general attention was called to the matter, and many references to it have appeared since then in the British medical press, the epidemic being traced to arsenical contamination of brewers' sugar. Thus a Commission of experts appointed by the Manchester Brewers' Association issued a report, which appeared in the *British Medical Journal*, December 22nd, 1900, and containing the following: "The Commission has not detected the presence of arsenic in brewers' materials other than the sugar supplied by Messrs. Bostock & Co., Limited."

It appears that pure beer, brewed from malt and hops, is too expensive for the masses in England. In order to make the drink cheaper, two kinds of brewing sugar are used instead of malt; one obtained by the action of sulphuric acid on inferior grades of cane sugar, called in the trade glucose, and the other by the action of the same acid on starch, usually obtained from maize, sago or tapioca, and called in the trade invert sugar. If pure sulphuric acid were used, the brewing sugar would be wholesome. The commercial acid is got by the roasting of iron pyrites, which, in addition to sulphur, contains arsenic, and both are passed over into the condensing chambers in the form of vapor, and are afterwards sold as "commercial acid." Dr. Harold Dixon, F.R.S., Professor of Chemistry in the Owens College, Manchester, says this acid contains "more than 1.4 per cent. by weight of arsenious acid," also that "there is strong evidence that the glucose, in the manufacture of which it is used, contains fully 0.05 per cent. by weight of arsenious acid." The amount of arsenic which gets into the beer has been stated by Mr. William Kirkby, from the analyses of seven-

teen samples, to vary from a trace to 0.28 grains per gallon, one grain in three gallons having a poisonous quantity. It would seem, therefore, that the best way to obviate such a sad state of things as now exists in Manchester and District is, as Mr. Kirkby says, "to establish a test for arsenic, to which all sulphuric acid that is to be used for the manufacture of food and drinks must conform, just as in the case of that which is to be used in medicine. This extra precaution is all the more necessary as invert sugar is also used in the manufacture of jams, ice cream, marmalades, cheap confectionery, and such drinks as lemonade and ginger beer.

In order to ascertain if the brewers of this country substitute glucose and other substances for malt, we have corresponded with some representative Canadian brewers, and have been pleased to learn that, to use Mr. O'Keefe's words, "In the manufacture of ale, porter, and lager beer in Canada, the only ingredients used are malt, hops, yeast and water." (*Vide* p. 138). Mr. Labatt, of London, also sends us a very instructive letter, making the same claim. We also append herewith the statement of Mr. Thomas Macfarlane, Chief Analyst of the Inland Revenue Department, Ottawa, Canada, who in 1897 wrote as follows in Bulletin 52, Malt Liquors: "Under the present law of England, says Allan (*Organic Analyses* 1, p. 90), 'the malt of typical beer may be replaced by any saccharine or amylaceous substance.' Under the Bavarian law, beer is a fermented liquid prepared only of barley malt, hops, yeast and water. The Canadian system resembles the German rather than the English, for all Canadian beers are made from malt, *unless in cases where the use of some other substance has been declared*, which is an extremely rare occurrence."

Curious to learn if this statement still holds, we wrote to Mr. Macfarlane, January 8th, 1901, and have much pleasure in publishing his courteous reply, which appears in the correspondence at p. 137. It will be reassuring to the physicians of this country to learn from leading brewers like Messrs. O'Keefe and Labatt, and the Chief Analyst of the Canadian Inland Revenue Department, that the beers, porters, and lagers made in Canada are almost without exception the products of malt, hops, yeast and water. It is regrettable that in Canada, which produces the finest barley in the world, the use of cerealine and brewing sugar, in place of barley malt, should be allowed, and we hope that legislation will

be introduced putting a stop to such practices, and making the Canadian brewing law a fac-simile of the Bavarian law in this particular.

J. J. C.

SOME OF THE KIND THINGS SAID AS TO OUR JANUARY NUMBER.

A SUBSCRIBER in New York City writes and says: "Your illustrated number is superb, and taken altogether the debut of the JOURNAL at the opening of the new century reflects great credit and enterprise on its staff of editors. May it grow in influence and usefulness, and become a solid and permanent fixture in medical literature among all English-speaking people the world over."

A PHYSICIAN in London, who has been a subscriber for years, writes: "The January number is a dandy. The other Toronto journals are 'not in it' with you. Good luck to you."

A DOCTOR in Kingston wrote us as follows on January 4th: "I have just received and glanced over this month's issue of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY, and I feel as if I must tell you that a handsomer journal, a better edited or compiled journal, I have never received. I wish some other Canadian journals would take a few pointers from you."

The *Mail and Empire*, December 29th, 1900, says: "In the January issue of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY, the twentieth century number, appear nearly thirty pages of half-tone illustrations of the principal Canadian Hospitals in Toronto, Hamilton, London, Kingston, Woodstock, Ottawa and Montreal, as well as a number of colored illustrations, one showing the cycle of vaccination, typical vaccine vesicles, from inoculation to cicatrization, and a second in three colors, a reproduction from life, showing the development of the diphtheritic membrane and its disappearance under the influence of antitoxin. Altogether, it is a number interesting to laymen, as well as those in the profession."

The *World*, December 29th, 1900, says: "Certainly one of the most attractive medical journals which we have ever seen is the January issue, just to hand, of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY. It contains between thirty and forty half-tone illustrations of the various hospitals in this country,

something which has never before, to our knowledge, been done by the publishers of any other medical publication. The illustrations are splendid, and make the issue very attractive indeed. There also appear some three-color plates of medical subjects. The JOURNAL and its staff are deserving of no small amount of praise for getting out such a creditable number."

The *Globe*, December 29th, 1900, says : "The January issue of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY is a very artistic one. In it appears a number of illustrations of the largest hospitals in Canada, reproduced in half-tone. They are beautifully executed and the whole number is a credit to the publishers."

THE REMOTE RESULTS OF CUTTING OPERATIONS IN STRICTURE OF THE URETHRA.

THE very interesting subject of the remote effects of cutting operations in the treatment of stricture of the urethra was fully reported on by some of the most distinguished living urologists at the Thirteenth International Congress of Medicine, held at Paris last year. The principal reports were presented by Heresco of Bucharest and Albarran of Paris, there being really little difference between their opinions.

Heresco stated that "Surgeons nowadays understand better than their ancestors the anatomy, histology, and pathological histology of stricture, and guided by such knowledge the indications are observed with greater care, and the results of surgical interventions have become more effective."

Albarran followed the usual method of dividing urethral strictures into two groups, the inflammatory and the traumatic. Referring to uncomplicated inflammatory stricture, he said that, "viewed from the standpoint of frequency of relapse, the principal modes of treatment could be classified in the following order: Electrolysis, progressive dilatation, internal urethrotomy, external urethrotomy, resection and autoplasmic operations."

Electrolysis, done by the rapid method at one sitting, causes a relapse, occurring all the sooner in proportion to the shortness of time devoted to the subsequent dilatation of the stricture. The remote results of electrolysis, done by the slow method, appear

to be more satisfactory; but the reports of published cases did not enable Albarran to form a definite opinion on that question.

Progressive dilatation should be carried on methodically, until a No. 60 Benique can be passed. Except, however, in slight cases, permanent results will not be obtained, and successive periods of dilatation by the use of sounds will be required, if the normal diameter of the urethra is to be preserved. Internal urethrotomy can only be considered as the first stage of progressive dilatation. When multiple instead of single section of the stricture is practised, the results are better; but, in any case, they will not be durable, and must be followed by subsequent dilatation to maintain the urethra at a normal size. A relapse is to be expected after progressive dilatation, just the same as after internal urethrotomy.

External urethrotomy gives results of a character superior to those obtained by the two preceding methods; but it is only suited to strictures of limited size. Occasionally patients remain well after an external urethrotomy, without taking subsequent precautions; but such instances are rare, and, as a rule, a relapse can only be avoided by the regular practice of progressive dilatation after the operation.

In inflammatory strictures limited to the perineo-scrotal region, resection of the urethra yields results comparable or superior to those obtained by external urethrotomy. When the stricture can be totally removed a cure may be expected without subsequent dilatation. In the penile region, however, extensive resection is likely to cause incurvation of the penis. In inflammatory stricture, complicated with tumors and urinary fistulae, progressive dilatation and internal urethrotomy will not suffice. External urethrotomy or, preferably, a partial or total resection of the affected part of the urethra, yields the best results.

Autoplastic operations to restore the urethra have been practised in a few rare cases, which, however, have very little analogy to those for which the above prescribed operations are usually performed.

In traumatic stricture, progressive dilatation will not ensure a cure of any duration. In spite of repeated sections, internal urethrotomy is equally useless, and relapses occur rapidly. The results are better after external urethrotomy; but the patient is exposed to a relapse in spite of regular attention after the opera-

tion. Resection of the urethra is the chosen operation in traumatic stricture. It is more successful in such cases than in inflammatory strictures, and may result in a complete cure.

J. J. C.

DR. GEO. M. GOULD'S TEMPORARY RETIREMENT FROM MEDICAL JOURNALISM.

It is a matter of the greatest surprise, and one certainly of regret, that our friend Dr. George M. Gould has given up the editorship of the *Philadelphia Medical Journal*. Dr. Gould has been looked upon by all as one of the most able and scholarly medical editors on this continent, and any reader of his journal will admit that for choiceness of material presented from week to week, and beauty of language employed in his editorials, Dr. Gould has won for himself in both the United States and Canada a large army of friends and admirers. Dr. Gould inaugurated the *Philadelphia Medical Journal* three years ago, and has followed its career till the present with more than a fatherly interest. He was looked upon as "the man at the front," and "the man with the gun," as far as the *Philadelphia Medical Journal* was concerned, and any separation of his name from that of the *Journal* appears passing strange. We are not conversant with the arguments on both sides of this matter, and though the *Philadelphia Medical Journal* Publishing Co. may have been within their rights when they discharged Dr. Gould, yet it would have put them in a much better light before the medical public had they given their editor English fair play, and allowed him to bid adieu to his readers by publishing his editorial matter in the issue previous to his departure, and not substituted matter proceeding from the pen of another, still allowing Dr. Gould's name as editor to appear at the top of the page.

It is true that Dr. Gould has in some instances taken somewhat extreme views on certain points, but there is not a man who can say that he has not published a medical journal that has been a credit to him as a writer and to the profession of whom he is so prominent and highly esteemed a member. We trust that the Doctor's new venture in the shape of the journal he intends to publish, commencing this month, will be a success.

W. A. Y.

EDITORIAL NOTES.

Toronto Orthopedic Hospital.—By reference to the second annual report of the Toronto Orthopedic Hospital, we notice that this excellent institution, which is exclusively devoted to the treatment of the lame, crippled and deformed, is meeting with gratifying success. The report says: "An analysis of the books shows that during the year just completed the aggregate number of days spent in hospital by all the patients admitted was 5,582, of which 2,146 days are to be credited to the accounts of patients who received their professional treatment free. That is to say, over thirty-eight per cent. of the work of the hospital has been done for a class of patients who were unable to pay for their treatment. Of this class, some received free board and nursing, in addition to free treatment, while some paid part and others the whole cost of board and nursing. In view of the fact that the hospital is so largely dependent for meeting its running expenses on the fees paid by private and semi-private patients for their maintenance and nursing while undergoing treatment, the trustees have reason to feel gratified that so large a measure of charitable work has been accomplished in the institution during the year." It is to be hoped that the Toronto Orthopedic Hospital will continue to receive from the public the support to which it is justly entitled.

Compulsory Notification of Tuberculosis.—The important question of the notification of tuberculosis was discussed at the Tenth International Congress of Hygiene and Demography, held at Paris, August, 1900, and the pros and cons were fully set forth. At the end of the discussion, the following conclusions were adopted by the Congress: (1) The declaration of transmissible diseases should be obligatory in all countries. The list of diseases to be reported should be decided by the sanitary authorities. The report should be made by the head of the family and by the physician. (2) Open tuberculosis, namely, cases where lung tissue has broken down, so that tubercle bacilli are contained in the expectoration, should be included in the list of diseases required to be reported.

Dried Anti-Diphtheritic Serum.—We have not learned that dried anti-diphtheritic serum has been placed on the market in

America; but it appears to be used in France. Now that the treatment of diphtheria by serum has passed beyond the experimental stage, and is considered indispensable, the price of the article is of some importance to the physician and his patrons. Dr. Martin, who brought this question up at the Eleventh International Congress of Pharmacy (Paris), stated that dried serum is not as active as the liquid variety; but that pharmacists who do not retail much serum would find that the dried variety, which is unchangeable and preserves its properties indefinitely, would prove useful in the sense that it could be employed at the beginning of a case of diphtheria, allowing the practitioner time to get liquid serum for the remainder of the treatment.

Proposed Bill for the Treatment of Inebriates.—The attention of our readers is directed to an abstract of the proposed bill for the treatment of inebriates, and also excerpts from the report of an advisory committee, appointed in 1899 by the Mayor of Boston, on the penal aspects of drunkenness, all of which appear at p. 108, Department of Public Health and Hygiene. We sincerely hope that something will be done by our legislators for the reclamation of drunkards. If it is right to spend Provincial money in helping to obtain the cure of tubercular patients, for whose illness the State cannot be held responsible, it is only honest to apply a percentage of the fees derived by the Province from license fees in assisting drunkards to improve their health and restore their moral stamina.

Significance of Iritis in Syphilis.—Trousseau thinks that the appearance of iritis in a case of syphilis indicates a severe form of the disease, and a profound infection of the organism, whether it assumes the form of iritis, irido-choroiditis, retinitis, or optic neuritis. In mild syphilis, ocular diseases are only occasionally observed, and are of short duration, yielding readily to treatment. Such is also the case in hereditary syphilis, in which the virus, being an attenuated one, does not beget ocular disease. In Trousseau's opinion, all cases of syphilitic iritis should be carefully watched and energetically treated.

Local Treatment of Strangulated Hernia.—The treatment of strangulated hernia by local applications, prior to a cutting oper-

ation, is worthy of note. Recently an American surgeon reported a case of this nature, in which the patient, a negro, accustomed to the use of tobacco, was treated by the application of a strong tobacco poultice to the affected inguinal region. After a short time the patient evinced signs of considerable systemic prostration; but the hernia was reduced quite easily. A French surgeon (Fiessinger) reported to the Paris Academy of Medicine (October 30th, 1900) a series of cases, inguinal, crural and umbilical, which were reduced by the prolonged application (half an hour to three hours) of ether compresses. It is claimed that the refrigeration produced by compresses of ether, is greater than that which follows the application of an ice-bag.

PERSONALS.

DR. THEO. COLEMAN has removed to Copper Cliff, near Sudbury.

DR. W. A. YOUNG spent a week last month in Chicago and St. Louis, Mo.

CONGRATULATIONS to Dr. H. B. Anderson, of Toronto, upon his recent engagement.

DR. JAS. M. MACCALLUM spent two weeks of last month with his brother in Oregon.

DR. CRAWFORD SCADDING spent Christmas in Chicago, but was only absent a few days.

DR. T. B. WHEELER, of Montreal, died suddenly in New York City on the 12th ultimo.

DR. L. H. WARNER, of Brooklyn, N.Y., has removed to 106th Street, New York City.

DR. C. W. PURDY (Queen's Univ., 1846), who has for some years been practising in Chicago, died in that city on January 19th.

CONGRATULATIONS to Mr. E. G. Swift, the popular manager of Parke, Davis & Co., at Walkerville, on his election as Mayor of the town.

DR. T. B. RICHARDSON, of Carlton Street, actually assumed the awful responsibilities of paterdom on the 12th of January. Congratulations, old boy.

DR. EZRA H. STAFFORD has been spending the past two months in Jamaica, and writes us that he has been having a most enjoyable time, getting better looking every day, and keeping strictly sober.

WE are glad to announce that Dr. Adam Wright is now completely recovered from his recent illness.

DR. W. B. THISTLE has been appointed Associate Professor of Clinical Medicine in the University of Toronto.

DR. GEO. R. McDONAGH, 140 Carlton Street, Toronto, desires to announce to the profession that he will be absent from the city from February 1st to April 1st.

DR. J. F. W. ROSS left on Friday, January 18th, for Nassau, in the West India Islands. He has gone to accompany Mr. Geo. Gooderham, and will be away until March.

DR. EDWARD PLAYTER, of Toronto, won his appeal last month in the matter of the conviction registered against him some time ago in reference to Highfields Sanitarium for Consumptives.

DR. PERRY G. GOLDSMITH, of Belleville, leaves early in February to spend the next six months in London and Germany studying eye, ear and throat work. We wish him heartily every success.

FOR SALE.—Doctor's residence and good-will of practice, in a flourishing incorporated village in Ontario, with good surrounding country. First class opening. Apply to D. T. Symons, 18 King Street West, Toronto.

THE entire profession will sympathize with Dr. Chestnut, of Winnipeg, who was suddenly stricken with blindness on January 20th. Dr. Chestnut was the well-known Superintendent of Winnipeg General Hospital.

DR. CHOWN, of Winnipeg, President-elect of the Canadian Medical Association, which meets in Winnipeg, August 28-31, 1901, issued on January 1st to his friends a most artistic card, conveying New Year's greetings.

WE take this opportunity of congratulating Mr. W. Lloyd Wood, of Toronto, upon his acquiring the agency for the U. S. (in addition to that for Canada), for the well-known firm, Allen & Hanbury, Ltd., of London, Eng. Mr. Wood is most favorably known to the medical profession of this country, as not only a gentleman, but a keen and successful business man, and all wish him increased success.

LESTER KELLER NOT DEAD YET.—Our friend Dr. Lester Keller, of Ironton, Ohio, is in fact very much alive. We congratulate him heartily upon his victory in the matter of the recent small-pox outbreak in his town. In spite of all protests, he adhered to his decision that the case was one of genuine variola, and the Health Board have at last backed him up. Is he tickled? Well, I should smile! In fact, they tell us that Lester now walks as if on eggs.

Obituary.

DAVID NELLES, M.D.

DR. DAVID A. NELLES, for eighteen years a highly-respected and beloved practitioner of Thornhill, passed away at Grace Hospital on Saturday afternoon, December 29th. Two years ago Dr. Nelles fell from a tree, and although nothing particular was thought of it at the time, his death is indirectly attributed to the accident. Deceased was taken ill about five weeks before his death and a week later was removed to the hospital. He was born at Waterford 45 years ago. He leaves a widow, a daughter of Mr. Berkeley Smith, bursar of Toronto University, and two children, a son and a daughter. The funeral was largely attended. Deceased was a grandson of the late Dr. Duncombe, who for sixty years practised in the Norfolk County district. Dr. Nelles' life was marked by many charitable acts, and he will be greatly missed by a large section of York County.

RICHARD THORBURN, M.D.

THE death took place on December 14th, at Grace Hospital, of Dr. Richard Thorburn, who for about fifteen years has carried on his practice at Colborne, Ont., where he was widely known and esteemed. The deceased was the youngest member of the family of the late David Thorburn, formerly M.P. for Lincoln, in the old Provincial Assembly. Dr. Thorburn was born in Queenston, Ont., about 1839, and was educated at first at Queenston, afterwards at Toronto University, finishing his course at Oxford, Eng. Entering the medical profession, he practised for several years in Queenston, and some fifteen years since removed to Colborne, where he had continued to reside until ten days since, when, being taken ill, he was removed to Grace Hospital for better treatment, where he expired. The deceased was a brother of Dr. James Thorburn, of Bloor Street, and of Mrs. Symons, of 68 Avenue

Road. In religion the late doctor was a Presbyterian, and in politics a Reformer. He died unmarried.

T. M. FENWICK, M.D.

DR. T. M. FENWICK, of Kingston, died on January 3rd from the effects of blood poisoning. Two months or more ago he pared a corn, blood poisoning following, and finally gangrene. It was decided to amputate the left leg on Monday, the 31st December, but it was found the right leg had also become affected. The deceased was a native of Kingston, aged 57, and had practised his profession there for 36 years. He was one of the founders of the now defunct Kingston Ladies' Medical College, and a lecturer in Queen's Medical College. He was twice married, his second wife and one daughter surviving, together with four brothers and two sisters.

DR. RYALL, of Hamilton, died last week.

THE "MEDICO-LEGAL JOURNAL," NEW YORK.—We cannot but compliment our friend, Dr. Clark Bell, editor of the *Medico-Legal Journal*, New York, on the excellence and merit of his last number. It is not necessary for us to say that Dr. Bell has for years past been looked upon as the exponent in America of matters medico-legal. His opinion is among the first in the land, and with his keen knowledge of such matters, it is little wonder that the journal he publishes has attained to the position it now occupies. Every issue is worth binding.

THE annual dinner tendered by Dr. Cassidy and Dr. Young to the members of the staff of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY was held in the Blue Room, Temple Cafe, on January the third. The attendance was large, embracing a few guests of honor, all the members of the staff, with the exception of three residing at a long distance from Toronto, and two from illness. An orchestra provided pleasant music, and many bright and appropriate toasts were proposed and heartily responded to. Prosperity and harmony in the past, and success and united effort for the future, was the keynote of expression struck by all, which augurs good luck indeed for 1901.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

COMPOSITION OF CANADIAN BEERS.

To the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY:

DEAR SIR,—Replying to your favor of yesterday, I would say that the quotation from Bulletin No. 52 still holds good. But it would not be correct to say that Canadian beers, etc., are “without exception,” made from malt, hops, yeast and water. Last year nearly sixty million pounds of malt were used, and only 9,351 pounds of other substances (cerealine and sugar), the use of which was in British Columbia only, and duly declared. Reciprocating your good wishes, I remain,

Yours truly,

THOMAS MACFARLANE.

To the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY:

DEAR SIR,—Replying to your letter of 31st ult., brewers in both Great Britain and the United States, in order to cheapen their product, now use various substances for barley malt, such as raw grain, corn, rice, glucose, and other similar substances. I do not think these articles, if properly handled, will make a deleterious article, and I have no doubt, taking everything into consideration, that ale and porter are the most wholesome of beverages in general use. I think the trouble in England lately caused by poisonous beer was not the fault of the brewers, but of those parties who supplied the glucose or other substitutes. There is no doubt that Canadian ale and porter are the most wholesome in the world, as the excise regulations in this country are such that it would not pay a brewer to use these substitutes. The brewers in Canada are charged a duty of 1 1-2 cts. per pound for every pound of malt they use, but in case they wish to use a portion of raw grain, glucose or other substitutes, they must pay not only the duty on the malt, but so much a gallon besides. I forget the amount, but you can find this out by inquiring at Toronto Excise Office. How-

ever, it makes the duty so high that it does not pay to use anything but malt. Of course a brewer can use malt made from any grain, such as wheat, oats, corn, etc., but in my opinion nothing makes as good and wholesome and palatable an article as *barley* malt.

At all events, I have always been most particular to use nothing that could be injurious, as I am aware that very many physicians are constantly recommending my ale and porter for invalids and others requiring an article of this kind. So that I have always procured the best barley and hops that can be got, and shall always do so. And I have very pure spring water from an artesian well on my premises.

Some in Canada have adopted a carbonating process, that is, the ale is charged with carbonic acid gas artificially, instead of allowing it to mature in the natural way, when the gas which gives it the sparkling and creamy condition would be formed by the secondary fermentation that goes on in the bottles or in the cask of draught ale. Brewers who adopt this plan do not want to wait till their ale matures *naturally*, but wish to send it out as soon as made. I am strongly in favor of maturing the goods slowly and naturally, giving it proper age and having fermentations wholesome and sound.

Yours truly,

JOHN LABATT.

To the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY:

DEAR SIR,—In reply to your inquiry *re* Canadian beer, it affords me much pleasure to be able to state that in the manufacture of ale, porter and lager in Canada the only ingredients used are malt, hops, yeast and water. Our excise laws are very stringent, and I feel assured that they are rigidly adhered to.

Our entire brewing operations from the time the barley enters the brewery to be malted, until the product is ready for the market, are under the direct supervision of the excise officer, who holds the keys of the bonded warehouse, and weighs out the malt for brewing as required. He, of course, knows how much a given quantity of malt should produce, and any infraction of the law is almost unknown. The hops used are Canadian, Oregon, British Columbia, English and Bavarian. There is no inducement to use any substitute for these.

I beg to state that with the exception of Germany, no country in the world is turning out as pure malt beverages as Canada.

The system of brewing in England and the United States is altogether different to ours. Any substitute for malt, such as sugar, corn, cerealine, glucose, etc., can be used in these countries, but our system in Canada is far preferable.

In England, I know as a positive fact that what goes by the name of "running" ales, if not consumed inside of two to three weeks from date of brewing, will turn sour, and be unfit for use, while in Canada it takes months for beer to get in condition. Most Canadian brewers are now brewing "stock" ales, porter and lager for next summer's consumption.

Yours truly,

E. O'KEEFE.

PROPOSED LEGISLATION TO PREVENT DRUNKENNESS.

To the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY:

DEAR SIR,—I beg to enclose (*a*) an abstract of the proposed bill for the treatment of inebriates, and (*b*) excerpts from the report of an Advisory Committee appointed in 1899 by the Mayor of Boston on the Penal Aspects of Drunkenness. If you find that you can make room for one or both in the JOURNAL I think it will serve a good purpose. Allow me to remind you that the Ontario Government has practically declined to establish a provincial institution for this class on the grounds of the large expense involved. As there appeared to be no hope of any change in the policy of the Government in this regard, this bill was drawn up trusting that its economical aspects would commend it to the favorable consideration of the Government. Its aim is to combine maximum efficiency with minimum expense, and it has been endorsed by the Ontario Medical Association and by the Toronto Medical Society.

Yours truly,

A. M. ROSEBRUGH, Secy.

MARK TWAIN thus salutes the twentieth century: "I bring you the stately matron named Christendom, returning bedraggled, besmirched and dishonored from pirate raids in Kiaochow, Manchuria, South Africa and the Philippines, with her soul full of meanness, her pocket full of boodle, and her mouth full of pious hypocrisies. Give her soap and a towel, but hide the looking-glass."

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The Physician's Library.

BOOK REVIEWS.

Ian Hamilton's March. By WINSTON SPENCER CHURCHILL, M.P. Author of "London to Ladysmith *via* Pretoria," "The River War," "Story of the Malakand Police Force," etc., etc. Toronto: The Copp, Clark Company, Limited. 1900. Price, \$1.50.

This book is a continuation of Mr. Churchill's letters from the seat of war in South Africa, and is confined to General Ian Hamilton's column on the right flank of the main army of Lord Roberts from Bloemfontein to Pretoria. He makes an occasional diversion in the narrative and gives an account of the siege of Wepener and its successful defence by Brabant's Colonial Brigade, which he characterizes as a very honorable episode and particularly in the records of the Cape Mounted Rifles, who lost nearly a quarter of their strength. This book also contains "Extracts from the Journal of Lieutenant H. Frankland, Royal Dublin Fusiliers," lately prisoner of war at Pretoria.

Lieutenant Frankland was captured by the Boers when the armored train was destroyed at Chieveley in Natal, on the 15th of November, 1899. He was carried as a prisoner to Pretoria, where he arrived on the 19th of November and where he remained until the 5th of June, 1900, when Pretoria fell and the greater part of the prisoners were set free. In his diary of May 25th, he has the following note: "In our little enclosure we have quite a representative British Empire—English, Scotch and Irish soldiers, Colonials, South Africans, Australians and civilians, and indeed, we only require a Canadian to complete the list." So, you see, our boys at least kept free of the Pretoria "Round up," although some of them were captured later on and set free again.

Mr. Churchill has given us a fascinating description of General Hamilton's march and one that is as interesting as any similar work I have ever read.

A. J. H.

Sexual Debility in Man. By F. R. STURGIS, M.D., formerly Clinical Professor of Venereal Diseases in the Medical Department of the University of the City of New York; sometime Visiting Surgeon to the Venereal Division of the City (Charity) Hospital, Blackwell's Island; Member of the American Association of Genito-Urinary Surgeons, etc. Author of "Students' Manual of Venereal Diseases"; one of the authors of "A System of Legal Medicine." New York: E. B. Treat & Co., 241 West 23rd Street. Price, \$3.00. 1900.

Dr. F. R. Sturgis, of New York, has for years been looked upon as an authority on matters of this kind, and anything from his pen has always commanded respect. It is, therefore, not to be wondered at that a work of about 400 pages on the subject, claiming F. R. Sturgis as author, will meet with very considerable demand. One of the principal points of value in this book is that the cases cited are those which have come under the writer's own observation, so that the work as a whole is thoroughly practical. In some chapters, principally those entitled "Masturbation and Onanism," Dr. Sturgis does not hesitate to express his views, which he admits in many cases are at variance with those of even older writers. If other writers would but follow his example and give medical readers the advantage of their own practical experi-

ence, there would be in many instances much greater inducement to purchase. Dr. Sturgis states that it is his belief that masturbating lunatics should be castrated. He also adds that he does not believe that it is necessary, in the treatment of masturbators, to use extreme measures and picture to them asylums filled with cases similar to that of their patient in order to induce them to give up the habit, though he would advise in every instance the pointing out of the great danger incurred.

The Present Position of the Treatment of Simple Fractures of the Limbs. By WM. H. BENNETT, F.R.C.S., Senior Surgeon to St. George's Hospital, London, etc. Together with a summary of the opinions and practice of about 300 surgeons. London, New York and Bombay: Longmans, Green & Co., 39 Paternoster Row. Canadian Agents, J. A. Carveth & Co., Toronto. Price, 75 cents.

This little book is the address delivered in opening a discussion at the British Medical Association at Ipswich last year. Considerable stress is laid upon the advantages of early passive motion, and for this reason it seems desirable to do away with such immovable splints as plaster-of-Paris, etc., and to use instead some movable splints that may be removed from day to day and permit of passive motion. The author's investigations go to show that after such treatment period of recovery is greatly shortened.

As to the open method of treating fractures, the conclusion is reached "that although in the hands of certain operators the method is reported to have given results which are better in many cases than could otherwise be obtained, with the general body of practitioners it is not suited for anything like a routine treatment, and should be reserved for special cases which are unmanageable by other means." With this view the writer heartily concurs.

F. N. G. S.

A Text-Book upon the Pathogenic Bacteria, for Students of Medicine and Physicians. By JOSEPH MCFARLAND, M.D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Medico-Chirurgical Hospital, Philadelphia; Fellow of the College of Physicians of Philadelphia, etc. With 142 illustrations. Third Edition, Revised and Enlarged. Philadelphia: W. B. Saunders & Company. 1900.

This book with its precise and lucid management of the subject, its avoidance of much unnecessary detail, is intended for the student and general practitioner, and as such is a decided credit to the author.

We find the author keeping to his original idea in limiting this work as much as possible to the *Pathogenic Bacteria*, not enlarging upon parasitology, and only departing from this rule when absolutely necessary for purposes of differentiation. The chapters on infection and immunity have been entirely rewritten and contain much new subject-matter. In the sections of tuberculosis, diphtheria, tetanus, plague where advances have been most rapid, we note the principal changes, bringing these subjects well up to date.

Many valuable suggestions and hints are to be found in the departments of technic, which aid the student in working out a bacteriological history of his cases.

The illustrations are principally good reproductions from the standard works. *Salix verborum.*

W. H. P.

The Diseases of the Tongue. By HENRY T. BUTLIN and WALTER G. SCENER. Second edition. London: Cassels & Co., 1900. Canadian Agents, J. A. Carveth & Co., Toronto.

When the first edition of Butlin on the Tongue appeared in 1885, it took its place at once as the most comprehensive and most authoritative treatise upon this subject in the English language, and ever since then in difficult or complicated cases it has been the standard work of reference. Surgeons who were desirous of basing safe practice upon sound pathology in dealing with the

diseases of this organ, have been compelled to resort to this work and have found in it a very storehouse of the best surgical teaching.

A rapid review of this new work by one who had become very familiar with the first edition has led to the conclusion that in every respect it is an improvement upon its predecessor. Mr. Spencer's work, particularly that part which deals with the anatomy of the tongue and the latest views regarding the pathology of its diseases, is of a very high order, and the extended experience and results gained by Mr. Butlin during the last fifteen years in the operative treatment of cancerous diseases of the tongue are particularly useful sections.

The work is illustrated by a large number of colored photographs and cuts, and is clearly printed on excellent paper. It can be commended to all who have to deal with the affections of this organ, without reservation, as being the best monograph extant.

N. A. P.

A Manual of Surgical Treatment. By W. WATSON CHEYNE, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College Hospital, Paddington Green, etc., and F. F. BURCHARD, M.D. and M.S.(Lond.), F.R.C.S., Teacher of Practical Surgery in King's College, London; Surgeon to King's College Hospital and the Children's Hospital, Paddington Green, etc. In six parts. Part IV., The Treatment of Surgical Affections of the Joints (including Excisions) and the Spine. London and Bombay: Longmans, Green & Co., 39 Paternoster Row. Canadian Agents, J. A. Carveth & Co., Toronto, Canada. 1900.

Volume IV. of this manual has just come to hand. We find the same lines followed as in the previous volumes, viz., sufficient causation and pathology for the ordinary practitioner, and the treatments which have proved most useful in the experience of the authors. We consider this a good feature of the manual. It keeps the volumes to a convenient size and gives the busy doctor a sufficient variety in treatment with the least possible amount of reading, and the assurance that all the methods given are reliable and up to date. Volume IV. contains 360 pages and 138 illustrations. We prize the book very much, and can with confidence recommend it to our friends.

W. J. W.

A Text-book of Histology, including Microscopic Technique. By BÖHM and von DAVIDOFF. Edited with additions by G. CARL HUBER, M.D. Authorized translation from the second German edition by Hubert H. Cushing, M.D. Philadelphia: W. B. Saunders & Company. Toronto: J. A. Carveth & Co. Price, \$3.50 net.

The last few years have produced a number of new text-books of histology, on account of the very rapid strides the science has made since the early eighties, but we doubt if any of them will receive a better reception than this work. Those who knew the German edition looked forward to its appearance in English because of the increased field of usefulness, especially among students.

The publishers have, however, distinctly added to its value by placing in the hands of Dr. Huber, of Ann Arbor, the editing of the German text. The result has been that considerable new matter has been added, which has been drawn from the editor's researches upon the nervous system, and numerous new illustrations have been added from the same source. This work can be heartily recommended.

J. J. M.

The Essentials of Practical Bacteriology. An elementary laboratory book for students and practitioners. By H. J. CURTIS, B.S. and M.D.(Lond.), F.R.C.S., late Surgical Registrar, University College Hospital, formerly assistant to the Professor of Pathology, University College, London. Longmans, Green & Co., 39 Paternoster Row, London, New York and Bombay, 1900. Canadian Agents, J. A. Carveth & Co., Toronto. Price, \$2.25.

This work will be found to be quite an aid to bacteriologists in their work, as, though somewhat elementary in many places, it is written in a clear,

succinct manner, and contains material which is valuable from the clinical standpoint. The book is divided into two parts, the first dealing with the manufacture of the nutrient media and general technique, and the second with non-pathogenic and pathogenic organisms; *e.g.*, chromogenic bacteria, yeasts, moulds, the organisms of pneumonia, gonorrhea, etc., anthrax, glanders, typhoid, Malta and yellow fevers, cholera, malaria, etc. By the student Dr. Curtis' book will be found very acceptable. It is well illustrated and forms interesting reading.

A Kentucky Cardinal and Aftermath. By JAMES LANE ALLEN, author of "The Reign of Law," "The Choir Invisible," etc. Toronto: The Copp, Clark Company, Limited. Cloth.

A beautiful edition, bound in red and gold, finely illustrated. Perhaps some wise ones may have said that the life and tragic death of the Kentucky Cardinal was a poor theme upon which to hang a tale. Or others may have asked in the words of the old rhyme—

"Has inspiration dropped to zero,
When such material makes a hero?"

Around the Kentucky Cardinal, however, James Lane Allen has woven a tender love story. In its conclusion, "The Aftermath," the man story-teller has done an unusual thing—he has clothed the dark valley of suffering unto death, not with entire silence as almost always seems best, but with dignity, in a few simple words. In "Aftermath," has he not taken the liberty of stepping in "where angels fear to tread"?

The Hosts of the Lord. By MRS. FLORA ANNIE STEEL, authoress of "On the Face of the Waters," etc. Toronto: The Copp, Clark Company, Limited. Cloth.

A tale of life in India, full of incident and action, almost to the bewilderment of the reader. Not so thrilling, certainly, as "On the Face of the Waters," but still powerfully told. The different characters are not so distinctively drawn as they might be, with the exception of two types of womanhood. Nowadays these strange tales are appreciated best on the stage, and this story seems to call for "an atmosphere"—the prelude of music, the dim light of the theatre, the hush, the rising of the curtain, and the men and women in voice and gesture living the characters. After the story is told the scenic picture of the faint day dawn, "clear and still, shedding its light over the valleys on valleys, the hills on hills, which lay bathed in light between him and the 'Cradle of the Gods.'" W. A. Y.

Golden Rules of Skin Practice. By DAVID WALSH, M.D.(Edin.), Honorary Physician Western Skin Hospital, London, W. Author of "The Röntgen Rays in Medical Work," etc. Golden Rule Series No. viii. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited.

This is a handy little book of 102 pages, which may be called a vest pocket remembrancer. The subject of skin diseases has evidently been well combed by the author, and his utterances are none the less weighty because they are condensed. Several useful formulæ are to be found scattered through its pages. J. J. C.

Hugh Wynne, Free Quaker. Sometime Brevet Lieutenant-Colonel on the staff of His Excellency General Washington. By S. WEIR MITCHELL, M.D. Toronto: The Copp, Clark Company, Limited.

Weir Mitchell has contributed another strong story, this time a history of the difficulties that led up to the War of Independence, of the war itself and of the final Declaration of Independence. The story is a good one, full of thought,

good ethics and with a high moral tone throughout. There is enough love running through the book to make it palatable to the fair sex and not distasteful to the sterner sex. We can safely commend the book for your perusal.

F. N. G. S.

Visiting List for 1901. P. Blakiston's Son & Co., Philadelphia, Pa.

Once more Blakiston's Visiting List for another year comes to hand. It is almost too well known to require more than passing comment. With the present issue the Visiting List enters upon the fiftieth year of its existence and ever since its first issue has steadily improved. This year's proves no exception to that rule, and the Doctor who desires a complete up-to-date pocket visiting list with space for memoranda, and which will comprise up to 100 patients per week, had better purchase Blakiston's.

PAMPHLETS, REPRINTS, ETC., RECEIVED.

American Text-Book of Physiology. Saunders & Co.

Grandin and Jarman's Practical Obstetrics. Third edition. The F. A. Davis Co.

Wainwright's Urinary Diagnosis. By J. W. Wainwright, M.D. Chicago : G. P. Engelhard & Co. 1900.

A Text-Book of Pharmacology and Therapeutics ; or, The Action of Drugs in Health and Disease. By Arthur R. Cushing, M.A., M.D. Lea Bros. & Co.

Diseases of the Heart : Their Diagnosis and Treatment. By Albert Abrams, A.M., M.D., Heidelberg, F.R.M.S. Chicago : G. P. Engelhard & Co. 1900.

Proceedings of the fifteenth annual meeting of the Conference of State and Provincial Boards of Health of North America. Atlantic City, June 1st and 2nd, 1900. Providence : Snow & Farnham, printers. 1900.

Studies in the Psychology of Sex : The Evolution of Modesty, the Phenomena of Sexual Periodicity, Auto-Erotism. By Havelock Ellis. 8vo. 275 pages. Philadelphia, New York, Chicago. F. A. Davis Company, publishers. 1901.

L'Alcool et L'Alcoolisme : Notions générales—Toxicologie et Physiologie, Pathologie, Therapeutique, Prophylaxie. By Triboulet et Mathieu. Vol. I., 8vo carre de 254 pages. Cartonné à l'Anglaise, 5 frs. Paris : G. Carré & C. Naud, edituers, 3 Rue Racine. 1900.

Toronto Orthopedic Hospital, devoted exclusively to the treatment of the lame, crippled and deformed. Second Annual Report, containing general information about the hospital and the school of massage. Address all communications to Toronto Orthopedic Hospital, 12 East Bloor Street, Toronto.

The following pamphlets have been received from John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania : On the Use of Antitoxin in Diphtheria, with Special Reference to Small and Frequently Repeated Doses ; Amyloid Disease of the Liver, with an Abnormally Enlarged Left Lobe ; The Indications for the Use of Alcoholic Stimulants in Typhoid Fever ; Cancer of the Common Bile Duct.

The following pamphlets have been received from Alfred Stengel, M.D., Philadelphia, Professor of Clinical Medicine, University of Pennsylvania : Acute Enlargement of the Thyroid Gland, with Report of Cases ; The Immediate and Remote Effects of Athletics upon the Heart and Circulation ; The Diagnosis of Chlorosis and Chloro-Anemia ; Aortic Regurgitation, with Remarks upon Flint's Murmur and Paroxysmal Sweating.

The Canadian Journal of Medicine and Surgery

A JOURNAL PUBLISHED MONTHLY IN THE INTEREST OF
MEDICINE AND SURGERY

VOL. IX.

TORONTO, MARCH, 1901.

NO. 3.

Original Contributions.

CEREBRO-SPINAL MENINGITIS.

BY ALEXANDER McPHEDRAN, M.B., TORONTO.

THE comparative rarity of cerebro-spinal meningitis will be perhaps considered sufficient reason for publishing the following case. The history has been written by Dr. H. S. Hutchison, House Physician at the Hospital for Sick Children.

CASE.—Lottie R., aged ten, left Winnipeg on Thursday, April 5th, 1900, for Toronto, accompanied by her young brother. Both had been in perfect health, but during the trip her brother seemed drowsy and always thirsty. When they arrived on Sunday he seemed quite bright and well, but on Monday morning he took a severe chill, followed by many others, and by a severe headache. On Tuesday, the 10th, he became wildly delirious, and a herpetic eruption appeared over the eyelids, and on the face and body slightly. Kernig's sign, marked retraction of the head, projectile vomiting, and retraction of abdomen, all followed in the course of the next three days. He died comatose on the 16th. On Thursday, the 12th, Lottie became sick, complaining of languor, headache, and pain and stiffness in her neck.

On the 13th she lay "crouched in a heap," continually burrowing under the pillows with her head, which was aching severely. She had chilly sensations, was drowsy, and irritable. Vomiting occurred, and coryza was present. The conjunctiva of each eye was markedly injected. On Saturday, the 14th, she had a sudden chill, followed by periods of delirium, which lasted for about half an hour. Violent vomiting occurred. Photophobia also came on.

Lumbar puncture was done, but with negative results. The brother passed into coma in the evening.

On Sunday, the 15th, she was admitted to the Hospital for Sick Children. Her appearance was one of distress; the cheeks were flushed, and she complained of headache. The muscles of the neck were somewhat stiff, but no pain or retraction of head was present. Flexing of the neck was resisted, and was quite painful. There was no spasm of the muscles. Extension of the leg on the flexed thigh was resisted at an angle of 70 degrees (Kernig's sign). There was tenderness immediately below the occiput. The pupils were contracted, but reacted to light. The tongue was coated and the bowels were constipated. After looking at the light for a while, patient complained of pain in her eyes, and turned away. In the way of treatment, an ice-bag to the head and neck, potassium bromide, grs. x, and potassium iodide, grs. x, every two hours, morphia hypodermically to relieve the pain, inunction of unguentum hydrarg., and a simple enema in the evening, were the measures adopted.

During the following day, the 16th, the patient was very irritable and restless. The eyes were reddened. Herpes appeared on the lips. Her brother died in the morning. The diplococcus intracellularis was demonstrated in cultures made *post mortem*.

Next day she was quieter, and could flex head freely. The cervical glands were enlarged. The herpes extended to the chin, and also appeared on the upper lip and right nostril. The highest temperature was 104 degrees. The treatment was the same as before. The diet was milk.

On April the 18th, the fourth day after admission, a copious scarlatiniform rash appeared on the body, less abundant on the limbs. The highest temperature was 102 3-5 degrees. Treatment did not include the inunction.

On April the 20th, the herpetic eruption turned quite black. The pupils were sluggish and the eyes deeply congested. The neck was held very stiffly and slightly retracted. The rash was copious, especially about the groins and back; it was dark red, and did not disappear completely on pressure. The highest temperature was 100 degrees. The treatment included potassium iodide and potassium bromide, each grs. x, every four hours only; hydrarg. cum creta, grs. ii every four hours; liquor strychnine \mathfrak{M} ii every six hours, and morphia for pain. Chlorotone was tried, but failed to relieve pain.

On the 21st, the pupils were dilated, and ophthalmoscopic examination showed the retinal arteries and veins to be distended and sinuous, but no optic neuritis was discovered.

During the following week she seemed to improve. She rested well, and was much brighter mentally. The scarlatiniform rash

disappeared. In the third week the spasm of the muscles became more marked. There was less tenderness in the cervical region. The herpes on the lips were quite healed. Emaciation became very great. Very little nourishment was taken, and pulse was feeble and irregular. The hydrarg. cum creta and the potassium iodide were discontinued, and spts. frumenti was given.

During the next two weeks the general condition gradually improved. Patient took more nourishment. The mental condition became much better; there was very little pain on movement, and the pupillary reflex became more active. The headache disappeared. An abscess formed in the right thigh anteriorly in the



sixth week, and about three ounces of thick green pus were obtained. The *staphylococcus pyogenes aureus* was the infecting agent. The patient improved markedly and took nourishment well.

Liquid peptonoids, one ounce every two hours, and Ferrel emulsion with manganese, were given after the fifth week.

From this time forth there was marked general improvement, and the patient was discharged on the 11th week completely restored.

I had the privilege of seeing both children, with their physician, Dr. C. M. Foster. The boy's case ran a course very characteristic of cerebro-spinal meningitis. There were the onset with

chills, projectile vomiting, severe headache, wild delirium, herpes, Kernig's sign, marked retraction of the head, with rigidity of the muscles of the neck, followed later by deep coma. In the girl's case the symptoms were less severe. In both there was great restlessness and constant burrowing the head under the pillow. They illustrate the truth of the statement that the disease is "characterized by the slowness of its cure and the rapidity of its fatal issue" (Toures).

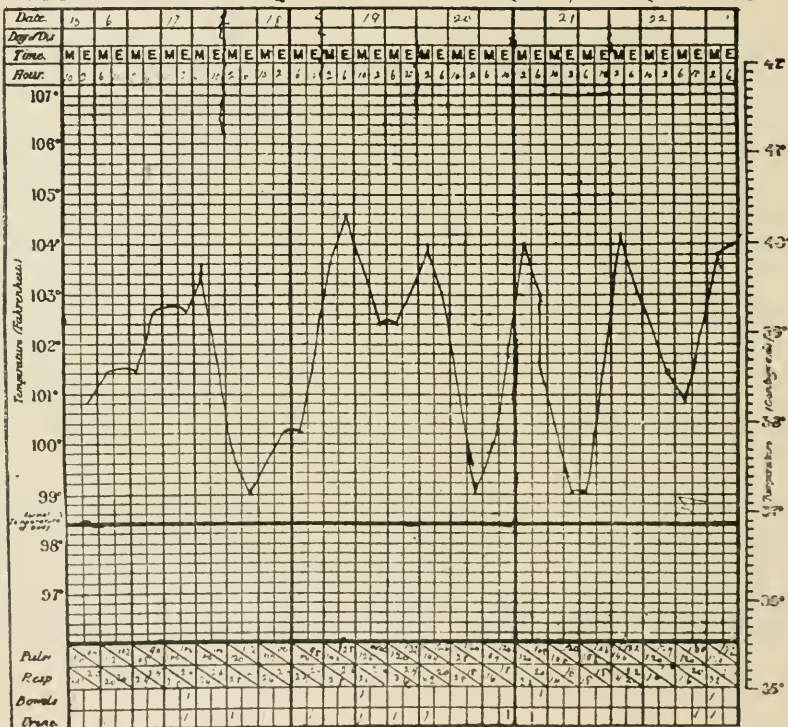
At the autopsy on the boy by Prof. J. J. Mackenzie and Dr.

HOSPITAL FOR SICK CHILDREN, TORONTO.

Chart No. 1
Under the care of
Dr. M. C. Phelan

Name Lottie Reynolds
Age 10 yrs
Date of Admission April 10, 1900
No. 1
Disease Cerebro spinal meningitis

(The record on this chart is from the 10th day of April 1900 to the 22nd day of April 1900)



Foster, a thick, tenacious, yellowish deposit was found on the convexity of the brain. The meninges at the base and extending down the spinal canal as far as could be examined through the foramen magnum, were deeply congested. The ventricles of the brain were somewhat distended with serous fluid, from which the diplococcus intracellularis was obtained. It is to be regretted that permission to open the spinal canal could not be obtained, as the exudate is usually most marked at the lower end of the cord.

In the girl's case the symptoms were less marked than in the

boy's. The neck was rigid, but not retracted. There was a copious herpetic eruption on the face. The temperature chart shows marked remissions, usually of the inverse type—a morning rise and afternoon fall, a course that has often been met with in protracted cases. In cases fatal within a few days, the course may be apyretic, even with a much accelerated pulse.

Kernig's sign was easily obtained. This sign is readily demonstrated by endeavoring to straighten the leg on the thigh, when the child is in the sitting position, or by flexing the thigh on the body

Chart No 2 HOSPITAL FOR SICK CHILDREN, TORONTO.

Under the care of

Dr. McPhedran

Name Lattie
Reynolds

Age 10 yrs.

Date of Admission
April 10th 1900

No.

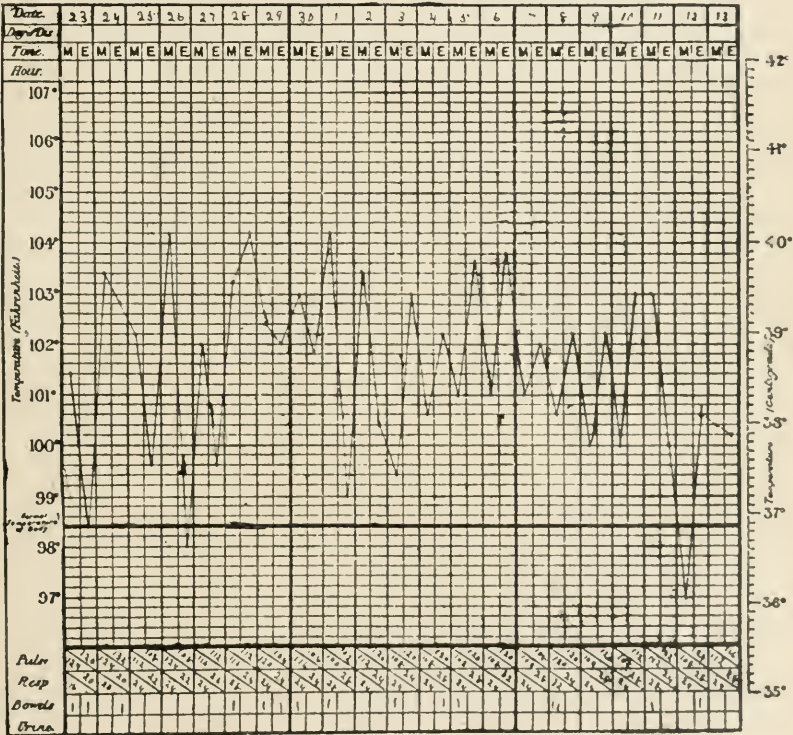
Disease Leuko-Spinal
Meningitis

(The record on this chart

is from the 13 day of

April, 1900, to the

12 day of May, 1900)



while the child is lying down, and then endeavoring to straighten the leg on the thigh. In either case, pain and resistance is produced when the leg is extended to an angle of about seventy degrees on the thigh, as shown in the accompanying figure. The pain and resistance is probably due to the stretching of the roots of the lumbar and sacral nerves, and these are in state of irritation when the spinal meninges are inflamed. While this sign is probably present in all cases of spinal meningitis, further observation seems necessary to prove that it may not be found in irritable

states apart from such inflammation. It is, however, a valuable sign.

Lumbar puncture was not repeated because the evidences of cerebral pressure were not marked.

In the treatment, it will be observed that the remedies were given with a free hand in order to produce the desired effect if possible. Whether they had any influence on the ultimate recovery it is impossible to say. Warm baths are highly recommended by European writers. They may be given three times a day or oftener. They have marked effect on the spasm and the pain. At the same time the temperature and pulse are improved.

151 Bloor Street West.

REPORT OF A CASE OF FORCIBLE REDUCTION OF THE DEFORMITY OF POTT'S DISEASE.

BY H. P. H. GALLOWAY, M.D.,

Surgeon to the Toronto Orthopedic Hospital; Orthopedic Surgeon Toronto Western Hospital;
Orthopedic Surgeon Grace General Hospital; Member American Orthopedic Association.

It is only four or five years since Calot began to advocate the operation of forcibly reducing the deformity as a routine element of treatment in cases of Pott's Disease of the spine. His reports were so optimistic and his advocacy of the operation so enthusiastic that surgeons in various parts of the world began to follow his example, and in a surprisingly short time reports from other operators began to appear, and a large mass of literature on the subject rapidly accumulated. Fortunately, however, his extravagant proposals never secured universal confidence and it is significant that a subject which two or three years ago was discussed voluminously in all standard medical journals is now but rarely referred to in these reflectors of current medical thought.

There has been, however, a general feeling, even on the part of those surgeons who discounted the operation and refused to perform it, that some advance in the treatment of Pott's Disease must inevitably result from the renewed interest in the subject excited by the world-wide discussion aroused by Calot's reports; and many who refused to consider the new operation as at all applicable to ordinary cases were still of the opinion that in exceptional instances it might prove a valuable resource. In a paper read before the Toronto Medical Society on January 12th, 1899, and published in *THE CANADIAN JOURNAL OF MEDICINE AND SURGERY* the following February, the writer reviewed the literature of the subject and took the following position:

"It is quite unjustifiable to go on doing this operation until the ultimate result in a considerable number of cases already treated in this way shall have been clearly determined. Hundreds of cases have already been operated upon, but years must elapse before we can be sure whether the operation was a blessing or an unfortunate interference which left the patient worse than before. Until clinical evidence and *post-mortem* findings have demonstrated that satisfactory repair will follow forcible reduction of the deformity, the usefulness of the operation should be held *sub judice*, and we should simply halt, refusing to perform the operation, but neither condemning nor approving it.

"Two possible exceptions to this rule should be considered. First, when a case of Pott's disease is complicated by paralysis,

which has failed to yield to a fair trial of the usual methods of treatment, the spine should be straightened. . . . There is such unanimity of testimony regarding the favorable effect of this operation on the paralysis of Pott's disease, that it may be quite justifiable to take chances on producing a wobbly spine in the hope of avoiding the ill-results of a complication which may prove to be disastrous if unrelieved. Second: Very early in the disease where the destruction of bone has been slight and the deformity is consequently small, it may be justifiable to straighten the spine as the first step of the treatment."

The only particular in which I am disposed to modify the view expressed at that time is in regard to the early cases with but a small degree of deformity. These should not be subjected to the operation of forcible reduction. No surgeon would be reckless enough to do this operation unless he felt reasonably certain of being able to carry out efficient after-treatment; but when the disease is of limited extent and the amount of deformity small *efficient* treatment will nearly always bring about a practically perfect cure with deformity so slight that it is not worth taking into consideration. In view of this fact it now appears to me that the operation in early cases is, to say the least, superfluous.

But in cases of Pott's disease complicated with paralysis which refuses to yield to milder measures of treatment there can be no doubt that the operation of forcible reduction is at times a most valuable measure, as numerous reliable reports have shown.

G. M., aged 3 years, was referred to me by Dr. J. D. Curtis, of St. Thomas, in September, 1899. The child was undersized and poorly developed, and enquiry into the early history revealed the fact that he had suffered from a succession of illnesses, including measles, severe broncho-pneumonia, and otitis media. Symptoms referable to the spine appeared when the child was sixteen months of age.

Treatment by mechanical means—a spinal brace with jury-mast attachment—and also by continuous recumbency for several months, had been faithfully tried, but although there had been satisfactory improvement as regards pain and other acute symptoms, a condition of incomplete paraplegia set in. When I first saw the patient there was a kyphos of moderate size occupying the upper dorsal region, and the paralysis was so extensive that the ham strings appeared to be the only groups of muscles in the lower extremities that retained any power of voluntary motion. The child objected strongly to examination, and it was interesting and instructive to note that while with his hands and arms he made all the physical resistance he was capable of, the legs remained practically motionless. The reflexes were exaggerated, and involuntary spasms by which the legs and feet were at times forcibly

flexed, were noted. There was no control of bladder or rectum. On September 14th the child was admitted to the Toronto Orthopedic hospital and put to bed on a canvas-covered gas-pipe frame arranged as an inclined plane, the head of the frame being elevated about twelve inches higher than the foot. Of course the child tended constantly to slide down on this inclined plane, and by securing the head to the top of the frame by a properly arranged sling, this tendency was turned into an efficient traction and counter-traction arrangement. A large pad of felt placed directly under the kyphos provided a fulcrum which served to keep the spine constantly hyperextended. A towel passing over the trunk and pinned to the canvas of the frame kept the child from turning and twisting about in bed, and completed the arrangement of the patient which was desired.

My previous experience in treating cases of the paralysis of Pott's disease by this method had been so satisfactory that speedy marked improvement was confidently expected, but in this I was disappointed. At the end of a month some degree of improvement had occurred, enough to fully justify continuance of the treatment, but very marked paralysis still persisted. The child left the hospital on October 12th, and the same plan of treatment was continued at home. On November 23rd I again saw the patient in St. Thomas with Dr. Curtis, and the degree of improvement in the paralysis was so slight that the operation of forcible reduction was recommended, and it was arranged that the child should return to the hospital in a few days. Immediately after this, however, Dr. Curtis wrote me that very substantial improvement had taken place, and we resolved to await further developments. I visited the patient again on February 9th, 1900, and the condition at that time is best indicated by the following notes from my history book.

"Paralysis much improved, but internal rotators of right limb and external rotators of left limb appear to be still paralyzed. General health good. Spine appears to be consolidating. Will be able to wear brace in a few months."

On April 16th the child was again brought to the Orthopedic Hospital for the purpose of having a brace designed and fitted. In trying the appliance on, however, I noticed that the paralysis had returned and was almost as bad as at first. It seemed to me useless to persevere longer with the plan of treatment we had been employing and the operation of forcible reduction was performed on May 22nd. After being anesthetized the child was turned on its face and, while powerful manual traction was exerted on the head and legs by assistants, I pressed strongly with the ball of my right hand upon the kyphos. Considerable force was required before any distinct yielding occurred, but the giving away of the tissues under the pressure was not only felt by my hand but was

clearly apparent to the ears of the nurses and assistants. The operation produced a good deal of shock, and for a short time there was reason for no small degree of anxiety, for along with momentary interruption of respiration, the child turned very pale and became almost pulseless. Measures to bring about revival were, however, very soon successful, and after carefully padding the body with absorbent cotton and felt, the trunk and head excepting the face were enveloped in a plaster-of-Paris dressing applied while the spine was supported in a strongly hyperextended position.

The child experienced very little inconvenience after the operation, and with the exception of a slight rise in temperature there was little reaction. At the end of four days the child was taken home to St. Thomas.

I visited him June 2nd and made the following note: "In good condition and comfortable and paralysis improved."

About the middle of June I received a letter stating that the paralysis had very greatly improved but that the child was not well, apparently suffering from digestive trouble. Nothing serious was apprehended at that time, but the illness soon assumed a grave aspect and the symptoms pointed strongly to the development of a cerebral abscess. Some days before death, which occurred on June 25th, hemiplegia developed. Convulsions preceded the fatal termination.

REMARKS.—Although no *post-mortem* was made, there is no reasonable ground for doubting that the child died of cerebral abscess. This diagnosis, which was made by Dr. Curtis, was confirmed by another able practitioner, who saw the case in consultation. Moreover, the child had suffered from recurrent suppuration of the middle ear, and the ear had been discharging for some weeks before the cerebral symptoms supervened. In all probability the ear was the source of infection. Although the child died within five weeks of the time of being operated upon, there is no reason to suppose that the operation on the spine had even a remote connection with the fatal issue. In other words, death resulted from an intercurrent affection. The fact that improvement in the paralysis began a few days after the operation, and had advanced rapidly up to the time when the cerebral symptoms appeared, is evidence, though not proof, that the final result of the operation would have been very satisfactory had the child lived.

The case confirms the reports of other operators as to the usefulness of the operation of forcible reduction in cases of paralysis which have resisted milder measures of treatment.

12 East Bloor St., Toronto.

ANNUAL ADDRESS OF CHAIRMAN OF PROVINCIAL BOARD OF HEALTH.

BY HARRY E. VAUX, M.D.

GENTLEMEN.—Another year has swiftly passed, and to-day we are again called upon to take up the important duties placed upon us by the Government of our fair Province. As we assemble year by year we are painfully conscious of the absence of faces which had become very familiar and dear to us, and we miss the voices of those who for many years have been closely associated with us in devising and maturing measures which had for their object the prevention of disease.

I am sure I voice the feelings of the older members of the Board when I extend a cordial welcome to the new members who, since the beginning of the past year have taken their seats with us, and I feel quite sure that the same fraternal feeling which has been so conspicuously present in the past will exist in the future.

It would seem appropriate at this, the first meeting of a new year and a new century to take a retrospective glance at what has been accomplished in sanitation, even during the few years of this Board's existence—of the slow, apparently, and yet really rapid education of the public mind in matters pertaining to the elemental principles of hygiene, and of the difficulties and obstacles placed in the way of advanced legislation by those who should have been the most forward in the movements advocated.

I presume the history of our Board and its struggles is the history of all other reform movements. But, gentlemen, standing at the threshold of a new century we can indeed thank God and take courage, for I believe sanitarians stand to-day in a position which a few years ago appeared to be almost beyond their reach. Their efforts are being better known and more appreciated by those whose interests are at stake, and who will not be satisfied until every available safeguard is thrown around those they love. But, gentlemen, fascinating as would be a review of all that has been done in sanitation, and of all that may be achieved by persistent and painstaking effort in the future, I feel that, even had I the ability, this is neither the time nor the place for such an attempt.

During the year which has passed the work of the Board has been largely of a routine character. There have been no serious emergencies to grapple with; although, as appears from the quarterly reports of the Secretary, the year opened and closed with small-pox, and it is still with us. It has indeed been a most remark-

able outbreak, existing, as seen by the reports of the Marine Hospital Service, in almost every State of the American Union, with thousands of cases, and a death-rate of only four per cent.

Dr. Lindsey, the old and experienced officer of the Connecticut State Board, says: "The most remarkable characteristic of this widespread epidemic is the mildness of its type. In this respect it is unprecedented in the experience of any living observer. Nor can there be found in all the mass of literature on the subject any account of an epidemic of small-pox in so mild a form, and so free from fatal results. Indeed, in many places where it has prevailed the profession for a time has been divided in its diagnosis of chicken-pox or small-pox."

The remarkable feature in this outbreak of small-pox is the persistence of the type. It is true many cases were severe, and some were protracted, but they lacked the essential character of genuine virulence.

That this may be and is temporary, and may at any moment be associated with cases of intense virulence, was illustrated last April in the unfortunate outbreak introduced by a traveller from Australia who, in some unknown way, became inoculated on his way to Winnipeg. Within forty-eight hours he died of hemorrhagic disease, not diagnosed until after death.

The results were most disastrous. Of persons who travelled with him in the Pullman, a number developed the disease between Winnipeg and Montreal, with fatal results in probably one-third of the cases. But besides these, travellers who occupied the Pullman after the patient was removed contracted the disease from the infected air or bedding of the car. The disease spread at Port Arthur and Fort William to several points along the C.P.R., and required the most vigorous measures to be adopted by our Board before it was finally stamped out.

It is a remarkable fact that during the past year in Ontario we have had at least twenty distinct centres of the disease. In every case the invasion has been promptly and completely stamped out, whilst in the neighboring States the disease has remained continuous for over two years. This very satisfactory showing is evidently due to the close union existing between the Provincial Board and the Local Boards of Health, whereby on the first note of danger being sounded, prompt and concerted action is taken by our very efficient Secretary and the local municipality where the disease has appeared.

In the matter of other contagious diseases the monthly reports, which are issued by our Board, show a very satisfactory state of public health, except in the case of typhoid fever. In the last issue of *THE CANADIAN JOURNAL OF MEDICINE AND SURGERY* there appears a very timely article by our confrere, Dr. J. J.

Cassidy, on "Typhoid in Foul Wells." In it attention is called to the prevailing neglect of the requirements of the Act providing for the yearly cleansing of wells. Ordinary pollution by the top, as illustrated by that article, is indeed very common, and in this way doubtless the *B. coli* becomes an ordinary inhabitant of many wells, but the pollution by soakage of animal excreta is of a permanent character, and is a matter demanding more general enlightenment than at present commonly exists, especially in rural districts. The question which naturally presents itself to the mind after reading examples given in the article just referred to, as well as many familiar to ourselves, is whether the mere presence of the *B. coli* in potable waters fulfils all the conditions necessary to an outbreak of typhoid. The question of the influence of temperature and rainfall on typhoid is a matter of much importance, and one which, after the experience of the past autumn, demands to be studied yet more closely, along with the biological factors, than it has hitherto been.

Other diseases, as scarlet fever and diphtheria, have not shown any notable prevalence as a whole, and it is gratifying to find that diphtheria in 1900 has again fallen below the previous years. An exception to this general statement must be made, however, in the case of the city of Toronto, where, estimating the population at 200,000, with 149 deaths, the rate was .74 for 1,000; whereas, other cities in Ontario, with populations of 260,000, had only a death-rate from diphtheria of 60, or .23 per 1,000. This is the more remarkable, inasmuch as the total mortality from diphtheria in the Province for the year 1900 was 486, of which Toronto supplies nearly one-quarter. This new year already gives a mortality of 21.

Perhaps of all subjects which to-day press themselves upon our attention as a Board, is that ever-present one, the restriction of tuberculosis. The members of the Board cannot be unmindful of their long and continued efforts for many years to keep this disease in its many phases before the attention of the public. I learn from the Registrar's Report just published, that 1899 again shows an increase in mortality, and even the monthly reports for 1900 seem to show rather an increase than a diminution of this class of deaths. The public has become greatly agitated over this matter, and from all classes of the community the cry comes, What can be done to save our loved ones from this terrible scourge?

There can be no doubt that, if we may judge from the immunity of tribes dwelling in tents—the Bedouins of the desert, and of those peoples who live in open houses in Southern climates—the one panacea is fresh air.

Sir F. Broadbent, President of the British Association for the Prevention of Tuberculosis, has said that if people could be in-

duced to live with their sleeping-room windows partly open, the deaths from tuberculosis would be decreased by one-half in a year.

Making due allowance for such general statements, the very difference in germ percentage between out-door and in-door air illustrates the point in this remark. Hence, in the cottages of our work-people, in their work-shops, in factories, in schools, indeed everywhere, the problems of how to maintain the purity of the air precedes all others.

See what it means. Over the sea Miguel says there is but six germs per cubic metre. In a new house (in Paris), 7,000; in an old house, 37,000; and in a hospital, 78,000; and out-door air, even in cities, is always more pure than that in houses. The problem becomes at once one for municipal authorities to recognize and endeavor to solve by the enforcement of sanitary by-laws for schools, factories, and shops of every kind. From the standpoint of cure, we have as physicians quite generally accepted the new creed, and the air cure sanatorium has taken firm possession of the public mind.

The action of the Legislature last session, as embodied in the excellent bill introduced by the Hon. Mr. Stratton, whereby municipalities are aided and encouraged to erect sanatoria, must be very gratifying to this Board, as it so completely falls in line with the views which for years we have been advocating. And as further evidence of the importance which is being attached to the subject, I need only refer to the fact that a conference, under the distinguished patronage of their Excellencies the Earl and Countess of Minto, is to be held in Ottawa on the 14th inst. to take concerted action in meeting the ravages of tuberculosis, and I trust that representatives from this Board will be sent in response to invitations received.

THE MORBID ANATOMY AND PATHOLOGY OF HEMATEMESIS AND THE SURGICAL TREATMENT OF HEMORRHAGE FROM GASTRIC AND DUODENAL ULCERS.

BY G. E. ARMSTRONG, M.D.,

Associate Professor of Clinical Surgery, McGill University; Surgeon to the Montreal General and Western Hospitals, Montreal; Consulting Surgeon to the Protestant Hospital for the Insane, Verdun.

As our knowledge of the various pathological lesions of the stomach and their sequelæ increases, the frequency with which surgery may successfully come to the aid of the physician increases also. There is now a fairly well determined field in which surgery may be useful in the treatment of simple gastric and duodenal ulcers; as examples may be mentioned perforations and cicatricial narrowings.

The surgical treatment of hemorrhage from the stomach has been adopted successfully in a considerable number of cases, although as yet the wisdom of this procedure is debatable.

It must be admitted that there is a mortality from gastric hemorrhage; that there are cases where no known medicinal or dietetic treatment is sufficient to arrest the bleeding. According to Leube, hemorrhage occurs in 50 per cent. of all cases of gastric ulcer, and is fatal in 8 per cent. of the cases in which it occurs. The text-books of medicine, it seems to me, do not bring this fact out with sufficient prominence, and too much reliance is placed upon a treatment, quite satisfactory in the great majority of cases, but not so in the small minority. It is quite in order, then, to try if possible to learn when and how surgery may and should be called upon.

In a paper which I read before the British Medical Association in 1889, I gave a report of the deaths from hematemesis at the Montreal General Hospital. Among the reports of 2,000 autopsies were those of fifteen deaths from hemorrhage of the stomach. The bleeding occurred from a gastric ulcer in five cases; from a duodenal ulcer in four; from ruptured esophageal varices, secondary to portal obstruction, in two; from aneurisms rupturing into the lower end of the esophagus in two; and in two cases was secondary to leucocythemia. In some instances the opening into the vessel was easily visible, and would admit the end of a small silver probe.

In 55 fatal cases of gastric and duodenal hemorrhage, collected by M. Savariand, the sources of bleeding were as follows:

Ulceration of the Splenic Artery	17 cases
" " Coronary "	6 "
" " Arteriole	10 "
Branches of the Coronary Vein	2 "
Other Veins	2 "
Vessel not determined	2 "
No Vascular Orifice visible	4 "
Vessel not mentioned.....	4 "

One of the important lessons that may be learned from the above table is the fact, rather discomfoting to the surgeon, that in four cases the source of the hemorrhage could not be determined at the autopsy, with the stomach laid open.

Another fact brought out by M. Savariand (quoted by Rodman) is that death may be sudden when the bleeding occurs from surface capillaries, "or delayed for ten days when there is an opening as large as a haricot bean into the aorta." This fact should be emphasized, that fatal hemorrhage may occur from surface capillaries. In some of my cases this has been the only apparent source of the bleeding, although careful search was made for deeper ulcerations and openings in the plexus of larger vessels lying beneath the mucous membrane.

When a case of serious gastric hemorrhage presents itself which does not yield to the ordinary treatment of rest, morphia, hot water and the other remedies usually relied upon, a careful differential diagnosis should be made. Leucoeythemia may be excluded by microscopical examination of the blood. A careful physical examination, together with the history of case, should exclude aneurism and conditions of the liver likely to cause portal obstruction. The bleeding in these latter cases is generally from ruptured esophageal varices, at the lower end of the esophagus, a point of difficult or impossible access, and secondary to an incurable pathological lesion.

In gastric ulcer there is generally a clinical history of indigestion and stomach distress, which helps materially in the diagnosis.

Those cases in which it is reasonably certain that the hemorrhage is from a gastric or duodenal ulcer, may as a rule be easily arranged in two groups, which have been called with some propriety, acute and chronic. In the former, the quantity of blood escaping by the mouth and the anus is large, and may be estimated by ounces, and the bleeding recurs at short intervals. In the latter, the quantity of blood is small, may be estimated by drachms, and continues to recur at intervals for months and years, notwithstanding treatment, medicinal and dietetic.

Physicians and surgeons are pretty much agreed that in the chronic form there is a time for surgical interference, and that surgery alone can save some of these cases from death, the result of exhaustion from repeated hemorrhages and the maldigestion and

assimilation that accompany them. Rodman, in a paper read before the American Medical Association at its last meeting, in Atlantic City, reported "31 operations for frequently recurring or what might be called chronic hemorrhages, with six deaths, or a mortality of 19.3 per cent. This is, under the circumstances, an excellent showing, when it is remembered that it represents but little more than the average mortality given in a large number of operations upon the stomach for non-hemorrhagic ulcers." Only one of my cases should be classed as chronic. It is included in Rodman's table of operated cases. The patient was a woman 31 years of age, who had suffered from recurring small hemorrhages for two years. In addition to the hemorrhages, she suffered almost continuously from indigestion and gastric pain. She was a most docile patient, and had conscientiously carried out her physician's instructions most carefully. In this case I did not succeed in finding the bleeding point. After carefully examining the interior of the stomach, I closed the wound, and did a pyloroplasty. Her recovery was satisfactory, and before she left the hospital she could take full diet with comfort and relish, and was gaining in weight. About a year afterwards she returned to the hospital, complaining of indigestion. She had not had any recurrence of hemorrhage since operation. Her symptoms disappeared after medical treatment, and she went home quite well. This is the only one of the five cases upon which I have operated in which I have failed to find the source of the bleeding. The propriety of surgical interference in these cases is pretty generally admitted.

The question of treating surgically acute hemorrhage is not so easily settled. It is not easy to define just what one means by acute hemorrhage, nor the exact combination of conditions and circumstances in the patient and surroundings that would render a resort to surgical methods advisable. A great deal must depend upon individual judgment in each particular case, and upon the available facilities for thorough, trustworthy technique.

According to Rodman's table, there have been "32 operations for acute hemorrhage, with 13 deaths, or 40.6 per cent. mortality; a much better showing than was made by Mr. Robson, who reported a smaller number of cases, and included also among them cases of vicarious menstruation and post-operative hematemeses, neither of which has any direct etiologic or other connection with gastric ulcer."

I have operated five times for the arrest of gastric hemorrhage. In my first case, reported in the *British Medical Journal*, there had been no gastric symptoms prior to the first hemorrhage. The patient, a lady 35 years of age, continued to vomit considerable quantities of blood at short intervals for seven days. On the seventh day I operated, the patient at the time being extremely pale

and blanched. Blood was found oozing from three fissure-like ulcers. The bleeding was controlled by the thermo-cautery, and the patient made an excellent recovery, and is now in good health. The operation was in July, 1898.

My second case, reported in the *Montreal Medical Journal*, was operated October 12th, 1899. The patient gave a history of stomach indigestion extending over a period of a year. At the time I operated she was almost exsanguine from repeated copious hemorrhages, recurring at short intervals for four days. I found a deep, excavated ulcer on lesser curvature two inches from the pylorus. I excised the ulcer, extended the incision through the pylorus, and closed as a Heintze-Mikulicz pyloroplasty. The patient made an excellent recovery.

My third case is the one already mentioned under the heading of chronic hemorrhage. My fourth case was a woman aged 31. She had a distinct history of gastric ulcer extending over a period of at least five years. She had been repeatedly brought to the hospital in the ambulance, after attacks of hematemesis, and from the reports of the medical officers who accompanied the ambulance and saw the vomited matters, I should say that in 1895 she vomited four ounces of blood; in November, 1898, 16 ounces; in January, 1899, half a chamberful, which seemed to be mostly blood; in February, 1899, 20 ounces; at this time the patient was blanched and respirations gasping; in March, 1899, 4 ounces. I operated on the 30th March, 1899. On opening the stomach, blood was found oozing from several points. At cardiac end of stomach was an area two inches square, situated on the anterior wall, which was dark, superficially eroded, and from which blood oozed rapidly and in considerable quantity from six or eight points. All bleeding and eroded surfaces were touched with a broad Paquelin point. A pyloroplasty was then done, and the abdomen closed without drainage. Recovery rapid and uneventful. These four cases are included in Rodman's table.

My fifth case was a young woman of 29, referred to me by Dr. Bazin. She gave a history of indigestion. One year ago, she says that she vomited a pint of pure blood. Since that time she says that she has suffered from distress after eating. She was a stranger in the city, and we were not able to learn much about any treatment to which she may have submitted. On Sunday, — Aug., 1900, she vomited her dinner, but no blood. On the following day she vomited 6 ounces, and passed about 10 ounces by rectum. On Tuesday there was no vomiting. On Wednesday, at seven o'clock in the evening, she vomited about 20 ounces of pure blood, which clotted in the basin. This left her thoroughly blanched, and very weak. Dr. Bazin, since Sunday, had placed her upon the most approved treatment, including, of course, rest in bed and absti-

nence from food. During Wednesday night rectal injections of saline solution were administered, and also two pints subcutaneously. Blood oozed from the rectum during the whole night. When I saw her on Thursday morning she was blanched, very weak, with a temperature of — and a pulse of 136, irregular. Although there had been no vomiting of blood for 17 hours, yet there was a constant oozing from the anus. Her condition, Dr. Bazin assured me, was becoming gradually worse. I had her removed to the Montreal General Hospital, and as quickly as possible. When brought to the hospital she seemed to be a well-nourished girl. The mucous membranes and face were very pale and blanched. Respirations sighing and pulse very rapid. Abdomen was not distended. There was no dulness in the flanks; liver dulness normal; there was some tenderness over the stomach, most marked a little to the left of the median line. A soft, systolic murmur heard at apex, most pronounced at second pulmonary, and transmitted down along the sternum to apex. On opening the stomach, I found at once a small, deep ulcer, with a spouting artery in its base. This and two other similar bleeding points were controlled by passing a round curved needle well beneath them, through all the coats of the stomach wall except the serosa. Two superficially ulcerated oozing patches were touched with the point of the thermo-cautery. No other bleeding points being discernible, the opening in the anterior wall of the stomach was closed, and the pylorus incised and closed as advised by Heineke and Mikulicz. I had two reasons for performing pyloroplasty; one was, a suspicion that there might be a duodenal ulcer. The very considerable melena present gave rise to this suspicion, and the other, that a pyloroplasty would secure more perfect rest and quietude of the stomach walls during convalescence. She recovered from the operation without an untoward symptom.

On the eighth day after operation I saw her, when making my rounds, and she expressed herself as feeling better, but very hungry and asked for something more substantial to eat. Before I got to the front door going out she was dead. She died almost instantly. I was not allowed an autopsy, but I managed to learn that there had been no hemorrhage into the stomach or duodenum, and these two large thrombi were removed from the two branches of the pulmonary artery. The thrombi were white, and had been slowly formed. One of them was said to have given evidence of advanced organization. It is possible they were in process of formation at the time of operation.

The clinical history of these cases, and the report of the lesions found at the time of operation, show that one cannot, from the quantity or character of the blood ejected from the stomach, nor from the length of time occurring between the attacks of hema-

temesis, form any very definite idea of the stomach lesions. Large, frequently recurring, and even fatal hemorrhages, may result from superficial erosions, the hemorrhage being capillary. On the other hand, death may be delayed for days, when the lesion is in one of the larger arteries, or in the aorta or heart.

This fact is well brought out by a table of cases prepared by M. Savariand (*Paris Thesis*):

VESSELS.	Number.	Death, Sudden.	Death, Rapid.	Survived for a con- siderable time.
Heart	4	1	1	2 (3 days).
Aorta	2	....	....	1 (10 days).
Hepatic	2	....	1	1 (10 days).
Splenic	17	3	7	7 (2 to 18 days).
Coronary	6	1	3	2
Pancreatico-Duodenal.	6	....	3	2 (8 and 15 days).
Arterioles	10	1	1	8 (4 to 15 days).
Small veins	4	1	....	2 (7 to 11 days).
Invisible vessels.	3	2	....	1 (21 days).

An accurate diagnosis of the nature of the lesion, if such were possible, would be most helpful in formulating a course of treatment. Venous and capillary hemorrhages would be much more likely to yield to treatment other than surgical than hemorrhage from a partially divided splenic, coronary or pancreatico-duodenal artery. Until we acquire greater powers of correctly diagnosing the lesion, how are we to decide when to advise operation?

Putting aside the cases of sudden death, the "Forme foudroyante" of the French, I would suggest the following propositions for discussion:

1. If a patient vomits 20 ounces of pure blood, and another 20 ounces within four or six hours, operation should be performed if the surroundings are favorable, and the condition of the patient is such that there would appear to be a reasonable chance of recovery.

2. If smaller hemorrhages of from four to ten ounces continue to recur at intervals, and medicinal and dietetic treatment, with rest, fail to arrest in 36 or 48 hours.

3. In the so-called chronic cases that are not relieved by three months of medical treatment.

4. In any case, and at any time, when in spite of medical treatment, the patient is evidently passing into such a condition of anemia, that any operative measures could not be undertaken with any degree of safety.

As to the operation itself, I have found it best to first examine the walls of the stomach for external evidences of an internal

lesion. Failing to find any guide, it is well to open the anterior wall sufficiently to enable a thorough exploration to be made of the whole of the mucosa. If the bleeding point cannot be found, then a pyloroplasty or a gastro-enterostomy should be performed, with a view to the securing of such a degree of rest to the stomach walls as will favor the formation of clot and the subsequent healing of the ulcer.

If the bleeding point is found, then the treatment most appropriate will depend upon its nature and locus. If the hemorrhage is from the side or base of an excavated, hard-bordered ulcer, excision is the most radical and satisfactory, if feasible. If an artery is seen spouting from a small-fissured ulcer, a ligature passed around it by means of a round curved needle, has proved sufficient in two or three of my cases.

If there is oozing from one or more superficially ulcerated patches, it can be completely checked by the thermo-cautery. The plan of throwing a ligature around a portion of inverted stomach wall has never commended itself to me, and I have not yet met a condition which seemed to demand it. The ligature of the artery outside the stomach wall has been practised successfully, but the cases in which it is possible are not met with very frequently. Curetting and cauterizing have been followed by subsequent perforation.

After any method of control has been successfully adopted, it seems to be generally conceded to be good practice to perform a pyloroplasty or gastro-enterostomy. I have done one or the other in each one of my cases. I have never practised lavage of the stomach before operating, fearing an increase of the bleeding from disturbance of clot, or possibly the perforation of an ulcer with a thin base. The washing out of the stomach with saline solution, after all bleeding points have been controlled, tends to lessen if not arrest totally the after nausea and vomiting.

After operation, rectal feeding and salines are indicated. I have always begun feeding small quantities of peptonized milk by the mouth, in 24 hours, and found it to be good practice, if nausea or vomiting be thereby not induced.

Medical Jurisprudence and Toxicology.

... IN CHARGE OF ...

N. A. POWELL, M.D., AND W. A. YOUNG, M.D.

THE LATE B. B. OSLER, K.C., A MEDICAL JURIST.

DEATH has removed from us, in Mr. B. B. Osler, one of the brightest minds that ever adorned our country, a lawyer of pre-eminent ability, and a citizen who was a credit in our midst. Owing to the number of criminal trials with which he was connected, sometimes as crown counsel and sometimes retained for the defence, he had the opportunity of coming into contact with as witnesses, a large number of medical men. Mr. Osler had a wonderful grasp of medicine in its different phases, and no matter how intricate the case was from a medical aspect, he could at once take hold, and woe betide the medical witness who proved at all contrary while in his clutches in the box. We are indebted to Mr. A. R. Hassard for the following few sentences used by deceased in addressing juries, sentences which are unique and fascinating and at once show what a control he had, at all times, of his subject, and which must be of interest especially to coroners:

There are men whose word on oath we'll take, while their notes are going to protest every day.

If an accident couldn't have taken place, look for the motive and look for the murderer.

The same person who got the pistol was particular to get all the articles that went with the pistol. Was that the man at whose place they kept the horse? He says it was. Do you accept the responsibility of rejecting his statement? Why should he come and tell what is not true? Men hesitate rather than volunteer evidence in a murder case.

Did not the stitches in the small tear look like those that would be made by a woman, while the large stitches were those you would expect boys to make in using a needle and thread?

Why did he, on a winter's day, come back with only a pair of overalls, when he had the tweed?

They were fleeing that night when no man pursued; yet, feeling that behind them was the horseman reaching for them—the horseman that is always pursuing the guilty.

You must do your duty to the community as well as to the prisoners. A lax administration of the law is one of the greatest evils a country can have.

A man who contemplates a crime always does it skilfully, to make sure; so always look for an appearance of innocence when the crime is one of skill. The dangerous criminal is the scheming criminal, who never, if possible, lets his hand be seen. Circumstantial evidence is the only thing that brings the crime home to him. It was hard to say which was the more dangerous to the community, the man who had the brains to scheme, but not the courage to kill, or the man who had not the brains to scheme, but will take an axe at another's bidding and do the murder.

It is nonsense to say that a man running from danger would have more care of himself than for his watch. If there was any danger to the watch there was also danger to the man.

Greed tempts many a man to his death.

You may say "circumstantial evidence is not reliable. Men have been innocently convicted on circumstantial evidence." But, remember, all calculated crimes—all crimes that are not of the impulse of the moment—are brought home by circumstantial evidence alone. The man who plots a crime plots it with no one to see him. Is the arm of the law so short that only the man who openly commits a crime can be convicted? If the stake is lost, you must find the spot with pointers.

Where you find memory keen on events that do not concern a man, and memory gone on events that do immediately concern him, what can you say of him?

Justice has to be administered to all sorts and conditions of men.

Honest men need never have any fear of detectives.

Was it natural that the prisoner should avoid the nearer houses and go to the more distant ones to tell the tale?

They say that the prisoner was never in the woods—never in the swamp on that fatal day. What do the mud on the boots and the turned-up trousers mean?

Paying five per cent. a month was ruinous. Where was the money to come from? Over the dead body of —.

What compelled the woman to go into the box and realize that her brother was the dead victim of these men, and that she was the living?

W. A. Y.

He is no Woodenhead.—Senator Wood, of Indiana, introduced a bill in the State Legislature on February 7th, making it a felony punishable by imprisonment in the penitentiary where Christian Scientists treat cases of illness and death results. The purpose of the bill is entirely to exclude the practice of Christian Science in Indiana.

Selected Articles.

THE URIC-ACID DIATHESIS FROM A CLINICAL STANDPOINT.

BY JAMES TYSON, M.D., PHILADELPHIA.

IN being asked to take part, from the clinical standpoint, in a discussion of the question, "Is a uric-acid diathesis an important factor in pathology?" I take it for granted that it is desired also that I do so as far as possible from the standpoint of personal experience. To such expectation I shall endeavor to conform. On this account it may happen also that I shall pass by some of the conditions which are supposed to illustrate the office of uric acid in the respect queried after. Should this be the case, it will be because I have not had sufficient experience with such conditions to justify their treatment at my hands. I shall endeavor, too, as far as possible, to deal with actual conditions.

At this point I will state also what I have come to regard as the sign of the uric-acid diathesis, interpreting my own observations by those of contemporary and previous observers. I regard that person as the subject of the uric-acid diathesis who secretes habitually, or more or less habitually, a scanty, high-colored urine, of high specific gravity and decided acid reaction, a urine which promptly deposits, either at the temperature of the body or at a slightly lowered temperature, a copious sediment of uric acid and mixed urates, to which oxalates may be added. Such a urine may contain a trace of albumin and even a few hyaline casts. I do not say that this constitutes the uric-acid diathesis. It is rather its sign, or perhaps one of its consequences, whence we may infer its presence. It matters not, from the clinical standpoint, whether such person ingests more uric acid, manufactures more uric acid within his organism, or does not take in enough water to hold the uric acid in solution, he is the subject of a condition which produces this result. It may also be well to say at this point that when the word uric acid is used, not only uric acid and its compounds, but also all the oxaluric bodies of modern chemistry are intended. I will not attempt to differentiate them, leaving this to the chemical referee.

1. The most manifest of the results of this diathesis is the tendency to uric-acid *gravel* and uric-acid *calculus*, a result so commonly recognized that it is scarcely necessary to make any extended reference to it. Less manifest, though scarcely less unanimously conceded, is an irritative effect of the urine of such cases on the kidneys and urinary tract, as the result of which arises in the course of time a nephritis of the chronic interstitial type, and in the larger urinary passages a catarrhal inflammation, of which cystitis is the commonest form, a cystitis rarely of high degree.

2. It is, however, true, as already intimated, that it means something more than a scanty urine readily depositing urates and uric acid. It is something of a less tangible character. As to what constitutes this condition more precisely, I also leave the chemical referee to decide. It, however, leads to some results that are scarcely less tangible than gravel and its effects, and one of these is *gout*. Whatever may be the reasoning as to the sources of uric acid, it is commonly acknowledged that it is this substance, either within or without the blood-vessels—that is, in the adjacent tissues—which is the direct cause of true gout as constituted by an attack of podagra or gout in some other joint. It has not, however, been clearly settled whether the painful symptoms are due to uric acid within or without the blood-vessels. For although a deposit of urates in the vicinity of joints without the blood-vessels is acknowledged to be the most infallible sign of a gouty process, yet such deposits are well known, at times at least, to be absolutely painless.

The frequent association of chronic interstitial nephritis with gout is due also to the irritative effects of the same agent, which operates from within the renal vessels and superadds its effect to that of uric-acid-charged urine already referred to. This is also a matter of general acknowledgment. I do not forget that with the supervention of nephritis in gout the urine is increased, its specific gravity is lowered, and uric acid may cease to be a sediment, being held in solution by the more copious urine.

3. As undoubted in my own mind as that gout is the result of uric acid is it that the uric-acid diathesis is frequently responsible for any idiosyncrasy in which depression of spirits is a constant symptom. Extreme modesty, a want of self-reliance, and a disposition to avoid society, in addition to moodiness, irritability, and bad temper, are a part of the same condition. To this is often added what is called biliousness, and we commonly say the liver is torpid; but when we say this we do not always have a definite notion of what we mean. It is certain, however, that there is often constipation, and the pulse is frequently slow. This, with scanty, darkened urine and copious sediment, already alluded to, constitutes the well-known condition to which the word *lithemia*, in its more limited sense, is applied, the word *lithemia* being also used

as synonymous with uric-acid diathesis. The symptoms of this well-known condition I assign to an accumulation or retention of uric acid and allied substances in the blood. This proposition has its most satisfactory proof in that which constitutes its successful treatment—viz., measures to increase the elimination and diminish the ingestion of uric acid.

4. That uric acid is responsible for certain cases of *migraine* I am also ready to admit. I could cite many cases from my own experience which attest this, of which the following may be regarded as a type, being one tolerably well studied:

F. R., a gentleman of large means and abundant leisure, but leading an active life, consulted me when he was fifty years of age. His father had had sick headaches almost all his life, although toward the close of it they disappeared. The attacks lasted a day or two, during which he was also sick at the stomach.

Mr. R., Jr., began to have similar attacks after he was thirty years old. He would rise in the morning with a headache, which gradually grew worse, until by noon he was compelled to go back to bed. He would finally fall asleep, and sleeping until nine or ten o'clock at night, would wake and find the attack gone. The pain would be behind the eyes and in the temples, and he could stop it for a moment by yawning, and by pressing the great vessels of the neck. The attacks were associated with nausea and accompanied by pains in the legs and stiffness—a sort of ache or tired feeling, with inclination to stretch the legs out. This sensation would come on rather toward the end of the attack. The next day he would generally feel uncommonly well, although there would be a little sore feeling remaining in the head. He would also have a little tenderness over the submaxillary glands when he had the headache. For five or six years, or since he was forty-five, these attacks had been so far modified that he had no nausea, which was replaced by a tendency to looseness of the bowels. Before the attacks became milder they lasted longer, generally extending over two days. Until the last five years he perspired very little, even with active exercise, but lately the tendency to perspiration has increased somewhat. He had four or five attacks a year, and was sometimes awakened by them at night. He is very temperate, almost a teetotaler; alcohol in any quantity brings on the attacks, especially champagne. In 1873, while in England, he experienced a painful sensation in the urethra, a sensation which extended to the end of the penis.

The urine at all times was typically lithic, the specific gravity ranging from 1021 to 1032, while it deposited a copious sediment of uric acid and urates. It contained no albumin or casts, and usually no sugar, though occasionally a feeble reaction for sugar was obtained. The quantity was always small, commonly about

32 to 34 ounces in twenty-four hours. On two occasions the urine was purified by the lead process, subsequently to which sample No. 1 contained one-sixteenth of one per cent. of sugar; No. 2, one-fourth of one per cent. of sugar. Neither of the specimens contained any sediment at the time of their examination. No quantitative analysis for uric acid was ever made, but the characters of the urine were typically those described as representing the uric-acid diathesis.

After some preliminary treatment with alkalis he was ordered to use the true French Celestins Vichy as an habitual drink; never to take less than a quart a day, and often more. Under this treatment the headaches grew less and less frequent, until they have practically disappeared. Mr. R. is now about sixty-five years old. It has been a year or two since I heard from him, but when I did hear from him he was in excellent health, but continues to take his Vichy as originally ordered, feeling safe as long as he does so.

By no means every case of migraine is, however, due to uric acid. It is commonly admitted that eye-strain is the cause of a larger number. After this, reflex causes of various kinds, especially of pelvic organs, are active factors.

5. I believe, also, that uric acid in solution may be the cause of high tension in *blood-vessels*, causing contraction of the arterioles and capillaries; also that its continued presence in the blood may produce *endarteritis*, with *degeneration* and *sclerosis* of the vessel-walls, together with the accidents which grow out of such degeneration—viz., rupture and apoplexy, as well as renal disease, and hypertrophy of the left ventricle. The latter I regard as partly compensatory, produced in order to make up the lost propulsive power derived in health from the contractile arterial walls.

6. *Vertigo* in most distressing forms is also at times a result of the presence in the blood of the oxaluric bodies. It may be alone or associated with other symptoms.

In all these conditions, save lithiasis and gout, and possibly in the latter also, I believe that the offending uric acid or allied substances are operating in solution through the blood, it may be in concentrated solution, but nevertheless in solution.

In the causation of the processes above described I believe that uric acid and its congeners play a decided role; but leaving them, we enter upon more debatable ground. Does uric acid produce rheumatism as something distinct and separate from gout? Does it produce sore throat, asthma, and bronchitis? Does uric acid produce gastric and intestinal symptoms? Does it produce glycosuria and diabetes?

First. Does uric acid produce rheumatism as something separate from gout? At this stage we enter on a question most difficult to treat satisfactorily, indeed, impossible to discuss in such a way

as to meet all objection. The chief difficulty lies in the absence of a generally accepted notion as to what constitutes subacute and chronic rheumatism. I say subacute and chronic rheumatism, because it is these as to which the difficulty lies. At the present day acute rheumatism is generally acknowledged to be an acute infectious process, and I am unable to recall from my own experience, at least, any influence of the uric-acid diathesis on its causation. I therefore omit it from my part of the discussion.

The question hinges further on the diagnosis between gout and rheumatism. Everyone who has had experience knows that there is a class of cases, not at all rare, including especially well-to-do persons past forty, in whom attacks of arthritis, and even muscular pain, succeed on errors of diet. Such a diet may include an excess of proteids, or it may be acid fruits, or wine and beer, which cause the mischief. I acknowledge that I have seen many cases of so-called rheumatism, especially muscular rheumatism, among my friends as well as my patients, who, as they grow older, have had to substitute whiskey for wine and beer, because they found the latter produced lumbago and even articular rheumatism. In some of these the urine presented the characters constituting the uric-acid diathesis; in others not. In others a gouty ancestry was their portion, or a history of an attack of true gout existed. I do not know how these causes act. Alexander Haig alleges that beer and external cold act alike in diminishing the alkalinity of the blood and driving the uric acid out of it into the joints and tissues ("Uric Acid," 3d ed., p. 305). There are many objections to this reasoning, and Haig's statements themselves are conflicting. Thus he says also: "The urates which cause acute arthritis are in solution, not in suspension, and they are deposited from solution later on when they are unirritating." Again, on p. 469, he says: "When uric acid fails to be excreted it is retained in the joints and irritates them." Also, "that the absence of uric acid from the joints after death is no reason why it is not present before death." I prefer to call these cases gout rather than rheumatism, but not on such reasoning as this. Proof as to the local presence of uric acid is practically wanting. I call them gout because they fulfil the conditions of gout, either by hereditation, by the previous presence of undoubted gout, or by presenting the conditions defined by the uric-acid diathesis. I know this reasoning is not invulnerable, but I can adduce no better. The term rheumatic gout, which has recently been reapplied to some of these cases by one of our members, Dr. Rachford, seems not an inapt one. On the other hand, the term has been of late so generally associated, though with much less foundation, with that other chronic rheumatoid condition—viz., rheumatoid arthritis—that I fear an attempt to restrict it to the cases in question would lead to more confusion.

In strong contrast with these is another class of chronic cases found among the poor, in which no such cause brings on acute attacks. In these cases there is no hereditary history of gout, and there has never been an attack of gout. Nor does the urine present the characters of the uric-acid diathesis. In these cases it has not been my experience that a meat diet interferes with a cure or causes relapses in cases in which convalescence has set in. Nor do wine and beer interfere with their recovery. On the other hand, I believe that chronic rheumatism in such forms is a disease that should be well fed, and for this class of cases I would rather have good food than medicine. My experience justifies this conclusion. It is, of course, not always easy to separate these two classes of cases. They sometimes so shade into one another from the standpoint of symptomatology that it may be impossible to tell to which category they belong, but I am sure that the latter group has nothing to do with the uric-acid diathesis as I understand it.

A word as to rheumatoid or deforming arthritis, also known as rheumatic gout. This disease I also believe is something quite apart from gout and the uric-acid diathesis, the conditions of which are not commonly associated with it. It is a disease of definite morbid anatomy, consisting mainly in the destruction of the inter-articular cartilages, and in new formations about the joints, associated with trophic changes, manifested most strikingly in muscular atrophy. Deposits of sodium urate constitute no part of it. It is much more closely allied to true chronic rheumatism than gout. Occurring more frequently in my experience among the poor, it is a disease of comparatively early life, setting in usually between twenty and thirty, and even at an earlier age. Acute rheumatism and gout rarely precede it, while worry, grief, and anxiety do. The studies of our member, Stewart, of Montreal, have shown that in fully 50 per cent. of cases it succeeds upon infective processes, while the nervous origin, originally suggested by J. K. Mitchell, and further elaborated by Remak and by Ord, has much to support it. It is, however, wanting the support of anatomical changes in the spinal cord, though Pitres and Vaillard claim to have found them in peripheral nerves.

Second. Does the uric-acid diathesis produce sore throat, bronchitis, and asthma? So far as these conditions are associated with the requirements of the gouty diathesis, it may. But there is no proof of it, except that derived from analogical reasoning. It is *prima facie* unlikely. Yet if they occur in persons who are hereditarily gouty, who have had true gout or fulfil the conditions of the gouty diathesis, and are not otherwise explainable, they may be thus caused. On the other hand, there is nothing so peculiar in their symptoms that a diagnosis of gout dare be made from the presence of such sore throat, bronchitis, and asthma. The same is

true of numerous other conditions ascribed to gout, such as the gastric neuroses, what is known as gout of the stomach, gouty diarrhoea, and the like. Their relation to the uric acid diathesis is an assumption justified when the conditions named are fulfilled, but there is nothing in these conditions themselves which is in any way distinctive of indicative gout, or of the uric-acid diathesis.

With epilepsy depending in any way on the uric-acid diathesis I have no experience, nor with neurasthenia, alleged to be due to the same cause.

Now as to the relation of uric acid and diabetes. It is one of the best recognized clinical features of the latter that uric-acid sediments are frequently found in diabetic urine. But here the resemblance between typical diabetic urine and the urine of the uric-acid diathesis ceases. For, although the specific gravity of diabetic urine is high, yet it is high not from the presence of uric acid and urates, but from sugar, and, instead of being scanty as the urine of the uric-acid diathesis, it is copious. I have always regarded the sediments of uric acid in diabetic urine, which, by the way, are almost always limited to the early stages, as a result of the rather marked acidity of these urines, which decomposes the urates and deposits the uric acid.

On the other hand, it cannot be denied that there is a certain relation between diabetes and gout, shown by the fact that at times these two affections are present in the same subject, either successively or simultaneously. Most frequently, perhaps, the gouty patient acquires glycosuria and the gouty attacks may cease. In other cases attacks of gout and glycosuria alternate. In other cases still gout and glycosuria are simultaneously present. Least frequently, gout supervenes on diabetes. A case illustrating the first category has been under my care nearly twelve years. It is accompanied by a mild degree of interstitial nephritis. It is, moreover, commonly conceded that these cases are almost invariably of the mild form, easily controlled, as a rule, by a dietetic treatment only. In my experience, the number is not as large in this country as it appears to be in Germany, England, and France, or as noted at least at the Spas where diabetics and gouty patients resort. Furthermore, I believe that a certain number of cases are supposed cases; by which I mean cases in which the reduction of cupric oxide is due to uric acid and allied substances, and not to glucose. This is such a frequent event in my experience, and I so often find mistaken conclusions drawn from it, that I am of late confident it is true. Admitting, however, the occurrence of gout and diabetes in the same person in some one of the ways described, does it follow that uric acid is the cause of both? On no grounds except the reasoning of Haig, that which he calls uricacidemia, or an excess of uric acid in the blood, due largely to its alkalinity,

causes enlargement of the liver, derangement of function, and consequent glycosuria. Gout and diabetes are both nutritional disorders, and may be the result of the same cause, but that cause is not uric acid in the case of glycosuria.

This is further seen in the absence of like consequences of the two diseases. Nephritis is a very common affection in gout, manifested almost exclusively in the granular atrophic form, and very rarely the same form appears in diabetes; but it is only in the obese and gouty and in the last stages of the disease in these that it is met. The renal changes which may be said to be so characteristic of diabetes are functional and hypertrophic, the result of extreme work thrown on the kidney in eliminating the water, sugar, and salts. These are never found in gout.

Cardiac changes are rare in diabetes. When present they are hypertrophic, but moderate. They are very common in gout and of the same kind. In both diseases they are probably due to the same cause—viz., extra work thrown upon the heart, partly to overcome irritative contraction of the blood-vessels, to which is superadded in gout arterial sclerosis. The latter is very rare in diabetes except in the form associated with gout. The irritant in gout is uric acid and its congeners; in diabetes, sugar, acetone, and similar substances. These may rarely be a cause, too, of arterial sclerosis occurring late in diabetes. When sclerosis is present, as already intimated, the cardiac hypertrophy is partly compensatory. When sclerosis occurs early it is a question, as suggested by Van Noorden, whether it is not primary, possibly of syphilitic origin, and itself the cause of diabetes through nutritive disturbances in the pancreas and nervous system. Finally, the very fact that when the uric acid asserts itself the diabetes subsides, and *vice versa*, is, in my judgment, a strong point against uric acid being the cause of both.

Admitting, therefore, as every one must, a somewhat intimate relation between the two conditions, it would seem at present that we must admit, with Van Noorden, who has given us, by general acknowledgment, the most satisfactory treatise on diabetes yet written, that an insight into it has not yet been vouchsafed us.

THE NEWER LOCAL ANESTHETICS—HOLOCAIN, NIRVANIN AND ORTHOFORM.

BY AIME PAUL HEINECK, M.D.

THE popularity of these agents is increasing. Laboratory experiments show that they are, when properly employed, of value as local anesthetics. Their toxicity, holocain excepted, is less than that of cocaine. They have a sphere of usefulness the exact extent of which is yet to be determined. It can only be determined by actual clinical use. It can be objected to them as it can be objected to all other local anesthetic agents, that the anesthesia which they procure is not as complete as that secured by general anesthetics. To employ them to good advantage one must know their possibilities and also their limitations. When given in excess of the therapeutic dose they are capable of exciting annoying accidents.

"Holocain is the ideal local anesthetic for removing foreign bodies from the conjunctival sac." (*Holtz.*) This agent is freely soluble in boiling water, sparingly in cold water. It is neutral in reaction. The drug having germicidal properties, solutions of holocain do not need sterilization. "Boiling does not change it chemically or reduce its efficacy, but as a one per cent. solution is decidedly bactericidal sterilization by heat is unnecessary." (*Louis G. Deane.*) In making a solution of holocain dissolve the latter in a porcelain vessel, as it causes glass containing an alkali to lose a portion of the latter, which clouds the solution. It is a stable agent, a one per cent. solution remaining clear for two months. It is useless to associate any antiseptic to its solutions with a view of preserving them aseptic. Germs can not live in solutions of holocain of one per cent. or more. Applied to mucous membranes it causes no constitutional symptoms. Administered subcutaneously it is a decided poison. Its toxic dose when administered internally is one centigramme. No local poisonous effects from the use of the drug have been reported. This agent is used and has been found to be an efficient and local anesthetic in ophthalmic practice. It seems to act simply by producing a paralysis of the sensory nerve-endings. Outside of rendering it anesthetic, holocain seems to have no effect upon the eye. It excites a hyperemia of the conjunctival vessels.

The one per cent. and two per cent. solutions are the ones most commonly used. A few drops of either of these instilled in the conjunctival sac will secure an anesthesia of that membrane and of

the superficial structures of the eye, in from one to three minutes (from this standpoint in comparison with cocaine a very considerable saving of time is effected), and of ten minutes' duration. Two or three instillations at one minute interval may be required. "One or two drops of one per cent. solution generally brought about entire anesthesia in from one to fifty seconds. When a second application was made forty seconds after the first, entire loss of sensation invariably followed in thirty seconds more." (*Hasket Derby.*)

Advantages claimed for holocain in ophthalmic surgery:

(1) Rapidity, promptitude of action. It acts with equal rapidity in contact with a hyperemic or granular conjunctiva, as in the presence of a normal conjunctiva.

2. It does not enlarge the pupil.

(3) It does not affect the accommodation. No unpleasant blurring of vision follows its use.

(4) It does not increase the intraocular pressure. Holocain not contracting the conjunctival blood-vessels, it does not bleach the eye nor lessen the lachrymal secretion, nor dry the corneal epithelium.

(5) It does not impair the integrity of the corneal epithelium. In ulcer of the cornea it is to be preferred to cocaine, as it relieves pain equally well, and unlike cocaine it does not unfavorably influence nutrition.

(6) There are no after-effects. "It does not interfere with nutrition of tissues, but rather increases the blood-supply and hastens healing." (*Wurde mann and Black.*)

Immediately after instillation in the eye, a slight burning, smarting sensation occurs. This is not lasting. It rapidly passes off.

(7) May be used when cocaine is contra-indicated, as in operations upon the cornea and in glaucoma.

The vaso-constrictive action of cocaine is useful in operations upon vascular tissue, but it is harmful in those performed upon the cornea because of the peculiar way in which it takes away nourishment. In the performance of iridectomy holocain has been shown to be of special value. "In glaucoma, dilatation of the pupil increases, and contraction of the pupil diminishes intraocular pressure. This long since led to the observation that atropine, homatropine, cocaine and other drugs dilating the pupil, might produce an attack of glaucoma in an eye predisposed to the disease." (*Hasket Derby.*)

(8) It can be used when we wish to avoid the shrinking effect of cocaine, as in the removal of eye and ear granulations, turbinal hypertrophies, polypi, etc.

(9) Stability and bactericidal quality of solutions. When

solutions become turbid it is not due to growth of bacteria. Such solutions are not spoiled. They can again be rendered clear by filtration.

A one per cent. solution stops fermentation and putrefaction entirely. (*Heinz.*) "Germs cannot live in solutions of holocain, for it actually kills these organisms." (*R. L. Randolph.*)

Holocain, owing to its poisonous nature, should never be used subcutaneously. Even in minute doses when administered internally it is highly poisonous. Symptoms of intoxication due to the internal use of holocain simulate those observed in strychnine poisoning. As it does not contract the vessels, operations under its influence are likely to be attended by more hemorrhage than those performed under cocaine. In muscle operations, in pterygia and in deeper operations upon the globe of the eye, the tendency to free hemorrhage under holocain anesthesia is disadvantageous. Hemorrhage impedes the operator and obscures the field of operation. It also seems to lessen the anesthesia. This is probably due to washing out of the anesthetic by the overflow of blood.

NIRVANIN.

Nirvanin is a local anesthetic agent only one-tenth as toxic as cocaine. It has been used in children without ill-effects. Its use is not attended by any excitement, by any influence upon the respiration, or by any weakening of the heart-action. Owing to its relative non-toxicity this drug is of especial value to secure local anesthesia of parts the circulation of which cannot be easily controlled; as in operations upon the anal region. Nirvanin anesthesia lasts longer than cocaine anesthesia. Its effects are prolonged. Nirvanin does not irritate wounds, does not interfere with healing by first intention.

Sterilization by boiling does not decompose solutions of nirvanin, does not impair the anesthetic properties of the latter. The most commonly used solutions for hypodermic injection anesthesia are the one, two, three and five per cent. aqueous solutions; for infiltration anesthesia, a one-quarter to one-half per cent. solution. Luxenburger recommends that the nirvanin be dissolved in sterilized salt solution.

For the ophthalmic surgeon nirvanin is not a suitable anesthetic. It is generally irritating to the eye. However, in wounds and ulcers of the eye, it can be advantageously used with cocaine to prolong the anesthesia. Applied to the unbroken skin, it does not anesthetize it. Applied to the mucous membrane, it is not to be recommended when it is intended that anesthesia should reach deeply, as in nose and throat surgery. A five per cent. solution applied to mucous membranes, the conjunctiva excepted, does not

produce an anesthesia deep reaching enough to allow of a painless operation upon the underlying parts.

The field of nirvanin is in subcutaneous and in infiltration anesthesia. Luxenburger commends this agent highly for regional anesthesia. When you wish to employ subcutaneous or submucous nirvanin anesthesia, you can secure it by employing the same technique that is employed for securing infiltration anesthesia by the aid of Schleieh's formula. Anesthesia is complete as soon as the tissues are completely infiltrated when you use the Schleieh formulas, while with nirvanin solutions five to eight minutes elapse before anesthesia sets in.

Nirvanin is being increasingly used by the dental profession. Its comparative non-toxicity and its antiseptic properties especially commend to them. For tooth-extraction inject your solution of nirvanin on both sides of the tooth down to the periosteum. Place the fingers over the punctures to prevent the solution from running out, and then by gentle pressure assist in dispersing the liquid in the surrounding tissues. Wait three or five minutes. "Careful attention was given to the condition of the gums to note whether any irritation was produced and in every case the gums rapidly returned to a normal condition without edema or sloughing." (*Kyner*.)

It is not bactericidal to the germs of suppuration.

ORTHOFORM.

Orthoform is a tasteless, odorless, whitish powder. It is but slightly soluble in water. It is very soluble in alcohol, also in ether. This insolubility in water unfits it for hypodermic use, unfits it for use in infiltration anesthesia. It is sterile. No germs are found in it as it leaves the factory, and the few germs that may accidentally gain access to it through careless exposure or unclean contact are either destroyed or lose much of their virulence. In cases in which an antiseptic as well as an anesthetic action is desired or required, orthoform can be combined with any of the following antiseptic drugs: Iodoform, dermatol, zinc oxide, aristol, or calomel. These agents are not chemical, pharmaceutical or physiological incompatibles of orthoform.

The drug when used in the therapeutic doses is non-toxic. It has, in a few reported cases, when applied too profusely, caused an eczematous condition of the skin surrounding the wound with which it had been maintained in too prolonged contact. This accident I have never personally met. Should eczema occur after its use, stop using the preparation for two or three days. If on second trial eczematous lesions are again provoked the drug is not suited for use in that individual case. Orthoform has been given

internally in doses of from gr xv—xxv. daily, without inflicting any injury upon the organism.

Orthoform does not act upon the unbroken skin. "The substance will not act upon unbroken skin, nor with certain reservations on intact mucous membrane." (*Yonge.*) To produce anesthesia it must come in contact with terminal sensory nerve-endings. It then produces in from three to eight minutes an anesthesia of the surface to which it has been applied. This anesthesia is complete to pain only. This agent is chiefly used to secure an absence of pain in painful non-operative conditions, and after operations in hyperesthetic areas. Its anesthetic action is prolonged for hours.

On the unbroken mucous membranes of the mouth, nasopharynx and larynx, orthoform does not anesthetize sufficiently to allow of surgical action.

We can use orthoform, either pure or diluted, as a dusting powder applied directly to the open surface which we wish to anesthetize. It can be used in the form of an alcoholic solution; in the form of an ointment, 10 to 20 per cent. with lanolin; in emulsion with yolk of an egg; in 10 per cent. solution with colloid.

Indications for Use: (1) To relieve pain or ulcers, be they chancreoid, syphilitic, tubercular, carcinomatous or simple chronic ulcers. Apply the powder to the surface of the ulcer and secure its retention there. Orthoform coming in contact with the exposed nerve-endings secures a marked and often a complete suppression of the pain. It does not interfere with regeneration of the tissues, and it exerts no unfavorable influence on the economy. It secures a prolonged anesthesia. If exudation be abundant, use it in the form of an ointment. An abundant exudate washes off the powder. Owing to the innocuousness of orthoform repeated applications are not harmful. In rectal carcinoma and rectal chancroids a ten per cent. orthoform suppository will do away with the pain, and will enable the patient to dispense with the use of opium with its allied constipating effects and antagonism to assimilation. The non-poisonousness of orthoform is demonstrated by the fact that in a case of inoperable carcinoma two ounces weekly were applied without any ill-effects.

As a local application to corneal ulcers, to canker sores and herpetic ulcers, it is very satisfactory. It may be used in carcinoma of the tongue to make eating painless. Dusting orthoform on painful, indolent ulcers renders them comparatively comfortable. Avoid eczema by not using orthoform too freely in the beginning, and by the application of a thick zinc-oxide paste around the ulcers.

(2) To relieve the soreness and pain resulting from cutting,

snaring and cauterizing operations upon the nasal cavities, the powder can be applied to the field of operation, or orthoform gauze can be packed lightly in the cavity.

(3) In tubercular laryngeal ulcers orthoform is of value to relieve pain and to cause a disappearance of the difficulty of swallowing. In the larynx, orthoform is best used by means of an insufflator. Use about five grains at each insufflation. It enables tubercular patients to take nourishment, thereby retarding the progress of the disease.

(3) The following emulsion for use in laryngeal ulcers is recommended by Freudenthal:

R	Menthol.....	10
	Ol. amygdale dulc.....	30
	Aq. destill, q. s. ad.....	100
	Vitelli ovi.....	30
	(About 2 yolks.)	
	Orthoform.....	12.5
M.	et fiat emulsio.	

In using this emulsion in the larynx use an ordinary laryngeal syringe.

(4) As an application to burns, when there is an exposure of nerve-terminals, be the burns thermic or chemical, it secures an immediate cessation of pain. This anesthesia lasts about twelve hours. "Almost immediately after its application to burns, even if they be deep, the pain ceases." (*Maygrier.*)

(5) As an application to operation wounds to lessen the after-pains of an operation. After the removal of faucial tonsils, if orthoform be applied to the cut surfaces the patient can eat solid food without pain being excited. After circumcision, after cauterization, after operation for hemorrhoids, etc., for the relief of severe pain following the application of the various caustics or the actual cautery, orthoform powder or ointment applied to the raw surface and covered with a gauze dressing is efficacious.

(6) Upon excoriations, as those that are present around an artificial anus, as an application to bed-sores. In painful hemorrhoids a ten per cent. ointment applied fifteen minutes before going to stool makes the latter painless. In cases of anal fissure, excoriated hemorrhoids and other painful lesions of anus and rectum, orthoform relieves the pain. Painful sinuses can be tamponed with orthoform gauze.

(7) Upon lacerated and contused wounds I have used it very frequently, and with much satisfaction in crushing wounds of the fingers. It has also been used in perineal and vulvar lacerations after delivery.

(8) Upon the exposed pulp of carious teeth and after teeth-

extraction. For dental caries introduce into the dental cavity, previously dried, a plug of cotton impregnated with the following preparation:

R	Orthoform	gr. xv
	Acid. carbolic.	gr. xv
	Camphoræ	
	Choral hydrate.	ãã gr. lx

(9) In fissured nipples. Apply to the nipple for ten minutes previous to putting the child to the breast, a pledget of gauze impregnated with a saturated alcoholic solution of orthoform. After several applications nursing will, in most cases, cease to be painful. You get the anesthetic effect of the orthoform in connection with the undeniable antiseptic action of the alcohol. Maygrier used this treatment in forty cases of fissured nipples. In all, he secured complete analgesia of the breast while at rest. Pain during nursing was in all cases markedly diminished; in the majority of the cases it was nearly abolished.—*The Alkaloidal Clinic*.

Chicago, Ill.

IODIPIN.

IODIPIN is not a mere solution of iodine, but it is a chemical compound of this element, just as are the iodides of potassium and sodium. In this case, however, the iodine is united with the fatty acids of sesame oil, whereby it loses its characteristic odor, taste, color, and irritating properties, and yields a compound very bland and acceptable to the stomach. When iodipin is taken into the system it is said to be carried even to the remotest tissues, where it is stored up, and the iodine gradually and continuously liberated and converted into iodides in the blood. On this account it is claimed that iodipin can be administered for long periods of time without disturbing the appetite, interfering with digestion, or producing the slightest "iodism." The fat, too, is absorbed, and is highly nutrient. These advantages in the treatment of chronic conditions in which iodine medication is indicated, can readily be appreciated.

Iodipin may be administered by mouth or hypodermically. The 10 per cent. iodine strength is employed for the former purpose, while for the latter the 25 per cent. iodine strength is usually preferred.

Klingmuller (1) reports the results of some observations made at the clinic of Neisser, at Breslau, upon the use of iodipin by subcutaneous injection. Such a mode of treatment is a special advantage for patients who will not or cannot take iodine by the

mouth, especially the insane. Thirty-six patients were treated, and received 220 injections of a ten-per-cent. preparation. No unpleasant effects were observed, even when 20 Cc., the equivalent of 30 grm. of iodine, was injected daily. Five injections were made on successive days in cases in the hospital, but with longer intervals in ambulant cases. Subsequently additional injections of a 25 per cent. preparation were made, with equally satisfactory results. Not only was the iodine deposited in the subcutaneous tissues, slowly absorbed and distributed, but all of it was necessarily taken up and rendered active. Iodine appeared in the urine in from three to five days after the treatment was begun, and its excretion continued for several weeks, while with other preparations the iodine appears earlier and the period of elimination is much shorter. To overcome objection to the lateness of appearance, the slowness of absorption, and tardiness of elimination of the drug when given subcutaneously, when a speedy effect is desired, it may be given by mouth simultaneously. The subcutaneous method of injection of iodipin has the further advantage of being painless, convenient, and inexpensive. The injection is best made strictly into the subcutaneous tissues between the skin and the muscle, and preferably into the gluteal or interscapular tissues. The specific activity of iodine was manifested after subcutaneous injection of iodipin in the same degree as when other iodine preparations, and especially iodipin, were administered by the mouth. The results in typical cases of gummatous destruction were most favorable.

Finally, the subcutaneous use of iodipin was unattended with symptoms of iodism.

Klingmüller (2) warmly commends the use of iodipin for the following reasons:

1. It exerts the specific action of iodine upon tertiary syphilis.
2. The organism is kept for a longer time under the influence of the action of iodine than with the use of hitherto employed preparations of iodine.

The subcutaneous administration has the following advantages:

1. None of the drug is lost.
2. The organism absorbs the iodine introduced slowly and regularly.
3. Iodism does not occur.
4. Absolute dosage is rendered possible.
5. The treatment is rendered possible for patients who, for any reason, will not or cannot take iodine—the insane; after operations; the unconscious.
6. The body may be kept under the influence of iodine for weeks, or even months, by repeated courses of a few injections.

Iodipin has been tested by Drs. Ferdinand Winkler and Con-

rad Stein (3) with a view of ascertaining the rapidity with which it is absorbed into the system. They report as follows:

"To this end tests were carried out in forty-six cases, comprising neurasthenia, duodenal ulcer, tuberculosis, nephritis, carcinoma, hepatitis, and ventricular sciatica, parametritis, gastritis, chlorosis, enteroptosis, etc. The patients were provided with test papers of starch impregnated with a 5 per cent. ammonium-per-sulphate solution, which were to be moistened with saliva at definite intervals. From tabulated results it appears that the reaction indicated by a more or less pronounced blueing of the test-paper by the iodine in the saliva, occurred in from fifteen to thirty minutes ordinarily, sometimes forty-five minutes. In very serious gastric affections, as for instance, gastric cancer, the reaction was first observed in four hours; hence the absorbability is directly due to the efficiency of the gastric functions, and a disturbance of the latter is indicated when an hour or more is required to obtain the reaction."

Dr. Kindler (4), of the City Hospital, Moabit, used iodipin per os, subcutaneously, and also in the form of an oil-pack. He says:

"In several cases of gonorrheic articular rheumatism no better results were obtained than when other warm oil applications were made. The iodipin was inferior to salicylated-oil and alcohol applications. The internal exhibition of iodipin was soon given up also, not because of any inferiority of action, but because of the objection to the oleaginous taste on long-continued exhibition. The subcutaneous injections were chiefly relied on, 10 Gm. (2 1-2 fl. dr.) being injected daily, with a pause after every ten injections. The place where the injection was to be made was first anesthetized with ethyl chloride. Of eight cases of asthma in which iodipin was given, not one complained of any by-effects. Five were very soon improved, the bronchitic symptoms in particular being very rapidly suspended. In the three remaining cases the results were unsatisfactory. Iodipin was also used in five cases of tertiary syphilis which had been previously treated with large doses of potassium iodide without in any way influencing the symptoms. After iodipin had been taken in teaspoonful doses twice daily for five days, a remarkable improvement was observed. In one case of cerebral syphilis iodipin was well borne, but afforded no improvement. One case of spinal syphilis, in which many inunction cures and large doses of potassium iodide had been ineffective, was also treated with iodipin, because of constantly-recurring backaches, increasing spasms of the right limb, and the development of incontinence; 10 Gm. of the remedy were injected daily for ten days. On the fifth day the incontinence was diminished, and shortly after the spasms and backaches also. No by-effects were

observed. In one case of extended serpiginous syphilides, with deep ulcerations on the nose, injections of 10 Gm. of iodipin daily for ten days brought about the healing of the ulcers."

Scipione Losio (5) reports that he has used iodipin in two cases with the following results:

"One case of adenoma near the left carotid, in which, by the use of iodipin, the tumor was reduced in two months from 5 x 3 1-2 Cm. (2 x 1 2-5 inches) to 4 x 2 1-2 Cm. (1 3-5 x 1 inch); and also one case of cold abscess of the left radio-carpal joint, with fistula. Daily injections of iodipin—about 50 Gm. (13 fluid drams) being employed in all—effected a cure in both cases in about ten days."

BIBLIOGRAPHY: 1 and 2, Klingmuller, *Jour. Am. Med. Ass.*, XXXIII, p. 492. 3, Winkler and Stein, *Centralb. fur innere Med.*, xx, 1899, p. 849. 4, Kindler, *Centralb. fur die gesammte Therap.*, XVIII, p. 89. 5, Losio, *Gaz. med. delle Marche*, 1899, Nos. 1 and 2.

NEW THERAPEUTICS IN HAY FEVER.

BY ALEXANDER RIXA, M.D., NEW YORK.

For a number of years I had the opportunity of paying particular attention to a case of hay fever of the worst kind. The case was in my own family, a brother-in-law, who is living in my house. He is forty-five years of age, weight about 220 pounds, and is a six-footer. He contracted the disease about fifteen years ago, in Chicago, while attending a camp meeting of the Knights of Pythias. Since then it has appeared every year with the punctuality of good clock-work, on the nineteenth of August. Early in the morning, rain or shine, the sneezing commenced with the vehemence of a volcano in full eruption, as the first symptoms of the disease. The eyes are usually swollen and suffused in the inner canthus. There is a feverish, accelerated pulse, and a rise of temperature to 101 5-10 degrees or more. However, it is not my intention to give you the etiology, pathology, symptoms, etc., of the disease; my object is to impart to you my successful treatment.

I recollect my first experience with the case. I was called to the patient late in the night, at the period of the hay asthma. He returned from the White Mountains where he used to spend the season, too soon, and got this attack. I found the gentleman standing at the foot of the bed holding on to the woodwork, and breathing like an aggravated bellows. Having no experience in the treatment of the disease, being my first case, I ordered a wash-bowl of hot water, in which I placed his hands. After a short while the intense dyspnea was relieved, the respiration easier, so that he could sit down on the lounge. I now ordered a hot drink, hot water with brandy, almost half-and-half, still keeping his

hands in the warm water. After a while I had the hot drink repeated, and in an hour he fell asleep on the lounge. The next morning he was surprised at the efficacy of my remedy, which gave him several hours of rest.

Before I visited my patient I stormed all the hand-books on the subject, and took along a vast amount of prescriptions, which were recommended by the great authors, but they all failed to help the asthma. The paroxysmal attacks returned upon the slightest change in the weather, and the asthma ran its self-limited course, in spite of all my remedies. That was six years ago. Since then I experimented with the good man, who was a patient subject, with all available drugs and medicines. I cauterized his nostrils, burned it with the thermo, and galvano cautery, brushed it, washed it, pencilled it, and still the next year the hay fever returned with the same vehemence and on the same day. Certainly I gave him relief, every year more, but to stop the outbreak of the disease, I succeeded but for the last two years.

My mode of treatment to prevent or abort the disease, consists of the following: Three days before the onset of the disease, I commence to wash the inner nares with a solution of Peroxide of Hydrogen (Marchand's) *one* part of hydrogen, and *two* parts of boiled water. This year I used *Hydrozone*, a new preparation, which has the double strength of the former, and is one of our best germ killers. I took *one* part of *Hydrozone* to three or four parts of water, according to the indication, three or four times a day. I use a nasal douche holding one pint of the fluid. By this process I managed to prevent the onset of the disease in all my cases. There is but very little irritation of the nose present, which causes the patient hardly any trouble. However, for those most sensitive I have the following prescription:

R	Acid. boracic.....	gr. viij.
	Sol. cocaine hydrochlor.....	5 ij.
	(Five per cent.)	
M.	Sig. Use in atomizer.	

The nasal symptoms, or the hay fever, proper, has a duration according to my observation, of about two weeks. After the expiration of this time, the hay asthma sets in, and two days later the hay bronchitis follows. Up to the past year I have not succeeded, in spite of all my efforts, to prevent this stage of the disease. Last year and this season, however, I succeeded rationally with the following remedies: My observations of former years taught me the lesson that when this period approaches, certain branches of the bronchial tubes get clogged up with tenacious mucus, which none of our expectorants could dislodge in a hurry. I succeeded but once with a desperate dose of apomorphia to remove this obstruc-

tion, and the asthma disappeared like magic. However, in a short time it re-established itself and kept tight for some ten days, and sometimes to the end of the season, of course with more or less severity. Considering this pathological condition, I started in right at the time when the hay fever should appear with the administration of the following prescriptions:

R Iodide of ammonia.....	5 j.
Fl. ext. grindelia robusta.....	5 iv.
Fl. ext. yerba santa	5 iv.
Aq. q. s. ad.	5 ij.

M. Sig. A teaspoonful four or five times a day.

For the first week, while the second week I ordered to be taken every three hours in teaspoonful doses adding yet the following medication:

R Terpin hydrate.....	5 j.
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M. Fiat capsule No. xii. Sig. Two capsules every two to four hours.

These medications acted like a charm, and prevented the asthma during the entire season. It seems to act in the way of preventing any accumulation of the discharges in the bronchial tubes and branches. The last stage of the disease, or the period of the bronchial catarrh, I have, thus far, not succeeded to avert, notwithstanding that there is no accumulation of mucus. However, as it forms the mildest part of the disease, the patient cares but little for the cough, which can easily be controlled by small doses of codeine or morphia. Stimulating drinks are beneficial. Grogs and punches, as well as good wines, are advisable, all through the different stages of the disease. The intestinal tract should be kept in order, and late or heavy suppers prohibited. In some of my milder cases patient attended to his business during the whole period, and was not compelled to stay in the house like in former years.—*Medical Summary.*

THE QUEEN'S DOCTORS.

It will have been noticed that the early bulletins from Osborne were signed by Sir James Reid and Sir Richard Douglas-Powell. These two men were the primary doctors of the Queen, and with the addition of Sir Francis Laking, make up the complete royal medical bodyguard. The underlying principle of the appointment is, that it is the most confidential that a medical man could occupy. For the most part this trio, says *The Pall Mall Gazette*, "are true disciples of the Jennerian school, and one of the first principles of Dr. Jenner, who was for thirty years the Queen's doctor, was the preservation of the secrecy of the sick-room.

"Jenner still lives in his royal medical successors. It became

a principle that his system in regard to Her Majesty must be carried on unbroken. Twenty years ago Dr. Reid was appointed Resident Physician almost for that purpose. He was a local Aberdeenshire man, whose medical brilliancy had been brought to the notice of Jenner. The latter soon satisfied himself that he was just the man he wanted; he proposed to Her Majesty that Dr. Reid should become the resident doctor, and his appointment followed. All through those early years of Dr. Reid's service Jenner exercised a close supervision, and thus it came about that the former was thoroughly tutored in the Jennerian system, and adopted it. Moreover, he seemed to absorb many of Jenner's characteristics.

"Sir William was the embodiment of reticence; but Sir James has proved quite his equal in this respect. He is a silent Scot, who never speaks two words to patient, nurse, or acquaintance if one will do, and has never been known in his life to speak of the Queen's health and any peculiarities it might possess. In more senses than one has he followed in Jenner's footsteps. The Queen became closely attached to him, and in many ways displayed the fact. Mark that he married a maid of honor, a circumstance of no small significance, whilst within the last few weeks Her Majesty provided him with a house within the precincts of Windsor Castle. He occupied apartments in the castle before he was married.

"We get Jenner again in Sir Richard Douglas-Powell, who was one of his pupils, most of whom have risen to distinction. It must be noted that the resident physician could not be Jenner's successor as first physician-in-ordinary to the Queen. No appointment in this respect was made till Jenner had passed away, and then Sir Richard received the call. His skill and discretion are proverbial in the profession, and he is one of the first authorities upon consumption treatment. His eyes are clear and penetrating, his face clean-shaven and dignified, and there is a look about him which somehow brings the Sherlock Holmes of fiction to one's mind.

"Sir Francis Laking is quite of a different mould from either of the others. Probably he is the least Jennerian of the three, but he is the greatest exponent of medical common-sense, and his vivacity and cheerfulness are in themselves acquisitions to any sick-room. One of the first principles of his medical teaching embraces the manifold virtues of rest, and another is that of doing unto the constitution what the mind feels most inclined to. Neither he nor his colleagues are to any extent faddists, nor even prone to experimentation in a case of illness; in this respect they are quite conservative. They have always regarded the Queen as an excellent patient, principally because of Her Majesty's optimism in regard to her own constitution and its capacity for endurance."

Proceedings of Societies.

THE CONGRESS OF TUBERCULOSIS.

THE Congress of Tuberculosis, to which so many, not only of the medical profession, but lay public, looked forward with peculiar interest, took place at Ottawa on February 14th, and was a magnificent affair.

The gathering, which was held in the Convocation Hall of the Normal School, was a great success, being attended by representatives from every part of the Dominion. The Conference was opened by His Excellency, there being also on the platform Dr. Borden, Minister of Militia; Mr. Fisher, Minister of Agriculture; Dr. Roddick, M.P., Senator Sir Wm. Hingston, Mayor Morris, Hon. S. Shimizu, Japanese Consul-General, and others.

Mayor Morris read an address on behalf of the City Council, welcoming the Conference to the capital, and hoping their deliberations would have practical and successful results.

The Governor-General said he hoped the expert information brought to bear at the discussions might not only assist the public to some knowledge of the dread disease which besets them, but would encourage the public to unite in one body to try and repel its ravages. Success must to a very large extent depend upon the assurance and good-will of the public at large.

Ten years ago the annual deaths from consumption in Ontario numbered 2,400. In 1899 they had gone up to 3,405. Of course allowance must be made for an increase of the population, but even allowing for this, it was a very considerable increase. From 1887 to 1898 the total deaths from consumptive causes were 31,699, while the annual estimate for the Dominion was now between seven and eight thousand deaths a year. In the period from 1887 to 1898 the deaths from small-pox were only 21. The small mortality from small-pox was very encouraging, as showing what can be done by preventive measures.

Sir James Grant delivered a brief address, in which he pointed out that this was the twentieth year of the discovery of the tuberculosis germ. The yearly death-rate in this country was estimated at between seven and eight thousand, and in the neighboring Republic about 150,000 annually. In Great Britain and the Continent of Europe, the results from this malady were not encouraging.

The first resolution, which urged upon every Government municipality to adopt organized efforts for lessening the spread of consumption, was moved by Sir William Hingston. He took strong grounds that tuberculosis is not an hereditary disease. "If it is, we may simply fold our arms and lie down and die. Consumption is not confined to the lungs; we may have it in the liver, the kidneys, the bones, in the knee-joints." He had seen it on the lips of a young lady teacher who scratched her lip with a pencil. The bacillus enters the lungs from the air. People are not careful. They spit indiscriminately. The germ in the sputum lives for months, and is disseminated by the atmosphere. It is scattered by ladies with long skirts, by much-handled bank bills, etc. It is not hereditary; it is preventable; it is curable, not in the last stages, but in the early stages. For the consolation of those who could not afford it, he said change of climate was not so important, and friends should never consent to people going to Florida, and afar off, to die away from home.

The motion was seconded by Dr. Lafferty, of Calgary. He said the disease is curable, and emphasized the importance of the duty devolving on Governments to establish sanitariums properly located in parts of the country where the climatic conditions were favorable. The Alberta district, where he came from, was being over-run by outsiders suffering from this disease looking for health, and unless restrictive measures were taken by the Government the district would have to take strong measures to protect itself. He thought the Dominion Government should pay for the erection and controlling of sanitariums.

Dr. Fagan, of Victoria, B.C., supported the motion. He was a delegate from the British Columbia Government, and he felt sure it would do its part in carrying out the wishes of the Association. If proper preventive measures were carried out the ravages of the disease would be reduced fifty per cent. in five years. He appealed to the ladies to reform their dress, as their train-skirts stirred up more germ-infected dust than any other agency. He refused to believe that fashion would prevail over humanity.

Hon. Dr. Guerin, representing Quebec, followed. He said all doctors knew how curable the disease was. The fresh air and God's sun were the great curative agents, and these could be had anywhere. Sanitariums should be located so that the poor would not have to send members of their families far away. In so far as the Quebec Government was concerned it was quite alive to its duty, but he thought the Dominion Government should assume some responsibility.

Prof. James Stewart, of Montreal, followed, strongly urging Governmental assistance.

Hon. Dr. Borden urged the teaching of young teachers at Nor-

mal schools, etc., the truths concerning the curability of consumption, so that they might disseminate the information through the school children.

Hon. Sidney Fisher, who has charge of the subject of public health in his connection with the Federal Government, said the first duty was to educate the people as to the facts, and thus create a sentiment which would demand legislation at the hands of the proper bodies. Legislation of the kind would require strong moral support.

Mr. Fisher said his department had sent out 50,000 copies of Dr. Farrell's pamphlet on tuberculosis, chiefly to doctors and teachers.

Dr. Dube, Montreal, strongly supported the theory of the non-heredity of the disease, as was proved by the examination of a large number of foundling children. In only two cases were traces of tuberculosis found.

Dr. A. Laphorn Smith, Montreal, suggested the desirability of printing the facts regarding the disease and its prevention, on cards, which should be read to school pupils by the teachers at least once a month.

Dr. T. G. Roddick, M.P., moved the second resolution, which called for legislation encouraging the notification of cases of tuberculosis, and to prevent the spread of infection through expectoration, extend the inspection of workplaces, prevent the spread of the disease through milk, and aid in providing some scheme whereby Governments or municipalities might assist in establishing homes or sanitariums.

Dr. Roddick, in speaking to the resolution, favored cremation in the case of death from all contagious diseases, and said it should be insisted on by law in the case of tuberculosis. Dr. Roddick spoke strongly on the carelessness shown in protecting the public from expectoration on the asphalt pavements, in street cars, and railroad trains. He favored the establishment of a Dominion Health Bureau.

The resolution was seconded by Dr. A. P. Reid, Halifax, Secretary Provincial Board of Health, Nova Scotia. He thought the subject should be educated to treat the human race, as well as cows or the lower animals are treated. Every emigrant should be compelled to pass the tuberculine test.

Dr. E. P. Lachapelle, Chairman Provincial Board of Health, of Quebec, was the next speaker, and suggested amendments to the motion to strengthen it. He would like to see the principles of sanitation taught in the schools.

At the afternoon session, Sir James Grant again presided. Dr. Hamilton, of Montreal, continued the discussion of the second resolution. He favored education rather than drastic measures

of legislation. If special local boards would get churches to set apart an evening in the week to the subject, people would be reached who could not be reached otherwise. Schools and clergy can help infinitely in this matter of education.

Dr. Macdonald, of Brandon, Man., thought an amendment should be made to the resolution, including the Federal Government. The experience of doctors who have treated consumption with sunshine and pure air, good food, etc., proved that this was the proper mode, and followed to its logical conclusion will greatly mitigate the disease.

Lieut.-Col. MacRae, of Guelph, said he wondered that no expression had been given as to the reason of the largely-increasing generality of tuberculosis in Canada, when the rate in other countries was decreasing. This point ought to be taken up. He was also surprised that no remark was made about crowded dwellings. A point he would like to get information upon was when a tuberculosis patient became dangerous. He protested against the harm done to Canadian cattle traders by imputations against the meat of tuberculous animals, and quoted Dr. Osler as saying that it was very doubtful whether contagion ever spread in this manner. He pointed out that all domestic animals had the same disease.

Dr. Fraser, of Brandon, spoke of tuberculosis among the Indians. None fell so easily a prey as the North American Indians. Fully 95 per cent. of disease among them was of this nature. There was probably no family where consumption was not present in every form.

Dr. Cleroux, of Montreal, spoke in favor of the resolution.

Rev. Canon Hannington, of New Edinburgh, advocated a hospital to nurse those having the disease. While the germ may not be inherited he thought the soil on which the germ fed was inherited.

Dr. O'Reilly, of Toronto, who has had charge of the General Hospital for twenty-five years, spoke in defence of not admitting tuberculosis patients to hospitals. He was pleased with the remarks of Lieut.-Col. MacRae. The domestic animal question was an all-important one, and ought to be looked into. There was now no place to send patients in the first, second, and third stages of consumption, and he suggested a hospital something like a Red Cross, with cottages on each side, putting about four patients in each, have cooking, heating, etc., in centre building, and allow, not for a temporary structure, but one that might be extended and enlarged. It was a disgrace that there should be no place to send patients. It was cruel to send them miles and miles away to die, and the hospital ought to be near town, so that friends could visit them.

Dr. R. W. Powell, of Ottawa, corroborated Canon Hanning-

ton's remarks *re* the hereditary or lessened power of resistance. He explained that consumption was quite curable, as evidenced by thousands of autopsies. A proper arrangement for treatment of sick was to a certain extent barred by the Ontario Statute, which prohibits building infectious disease hospitals less than 450 feet from other structures.

The second resolution was carried unanimously.

The next resolution dealt with the question of immigrants and cattle infected with the disease, a system of Federal statistics of deaths, establishment of provincial sanitariums, and grants for the distribution of literature on the subject.

Prof. J. G. Adami, of McGill, opened the discussion. He quoted King Edward's words on a former occasion, when as Prince of Wales he addressed a gathering of great men. If the disease was preventable, why not prevent it. The cattle-breeding class was the mainstay of Canadian prosperity, and it was to their interest to get action taken in the direction of betterment. Bovine tuberculosis could be practically eradicated. When it goes into a country it tended to spread, and must be stopped. He took exception to Dr. Roddick's statement *re* compensation to those whose animals were infected. Isolation was all that was necessary. He strongly opposed Mr. Fisher's idea that health matters should be provincial. They should be national. Should one or more provinces refuse to enter such statutes for health as are fitting, it was useless for the others to take action. Banishment was not necessary. Local sanitariums could be established on the outskirts of our cities. Still, altitude and dry climate, without extremes of heat or cold, were generally better than moist or low-lying localities.

Dr. Montizambert, Director of Public Health, stated that the propositions of communicability and preventability of the disease were unassailable. But where were the Government? If some criterion was not accepted how were tests to be applied? Were vessels to be held till chests were examined, etc.? The matter applied not only to seaports, but to every international point of the United States frontier. Instead of coming to Halifax people would come to Portland, and similarly on the Pacific coast. Much better work could be done at the port of departure than at the port of arrival. Less trouble in every way would be caused. He expressed his personal belief and hope that we would one day have a Canadian department of health in every civilized country, whose duty it would be to stop those intending immigrants who were tuberculized.

Dr. D. McEachern, of Montreal, read a paper giving statistics of Canadian Cattle and their value, and the value of all the commodities connected with live stock, and showing the importance of preventing disease by testing and in quarantining.

On motion of Dr. Lachapelle, Montreal, seconded by Dr. Chown, of Winnipeg, it was decided to ask the Federal Government to establish a Department of Public Health.

The night session started off with the nomination of Dr. Fagan, British Columbia; Dr. Lafferty, North-West Territories; Dr. Chown, Manitoba; Dr. Armstrong, Dr. Roddick, Quebec; and Dr. Reid, Nova Scotia; as a Special Committee to nominate officers for the proposed new association. Short addresses supporting the new association were delivered by Dr. Robert Wilson, Mr. H. A. Calvin, M.P., Dr. H. B. Small, after which the Conference passed an address to His Excellency the Governor-General on the death of the Queen, and accession of King Edward. The Conference then proceeded to discuss and adopt a constitution, the name decided on being "The Canadian Association for the Prevention of Tuberculosis."

Honorary life patrons will pay \$100, honorary life members \$50 yearly, members \$1.00. The next meeting of the Association will be held in Ottawa at a date to be fixed by the Executive.

The officers elected were:

Hon. President, the Earl of Minto; President, Sir Jas. Grant; Vice-Presidents—Quebec, Dr. Lachapelle, Hon. Senator Drummond; Nova Scotia, Dr. Reid; Halifax, Hon. Mr. Murray; Prince Edward Island, Dr. Blanchard, Hon. Mr. Ferguson; New Brunswick, Dr. Thomas Walker, sr., Hon. Senator Ellis; Ontario, Dr. Johnston, M.P., W. C. Edwards, M.P.; Manitoba, Dr. Blanchard, Hon. Mr. Roblin; North-West Territories, Dr. Lafferty; Calgary, Hon. Mr. Haultain; British Columbia, Dr. Fagan and Premier Dunsmuir. Secretaries, Dr. Richer, Montreal; Dr. Eby, Vancouver; Treasurer, Dr. H. B. Small, Ottawa.

Members of Executive—Ontario, Dr. Barrick, Toronto; Quebec, Dr. Roddick, M.P., Montreal; British Columbia, Dr. Davy, Victoria; North-West Territories, Dr. Bain, Prince Edward; Manitoba, Dr. Macdonald, Brandon; Nova Scotia, Dr. Sinclair; New Brunswick, Dr. Daniels, St. John; Prince Edward Island, Dr. McNeill, Charlottetown.

It was decided to hold the next meeting in Ottawa during the session of Parliament.

The Railroad Surgeons.—The International Association of Railroad Surgeons meets in Milwaukee, Wisconsin, on the 10th, 11th, and 12th of June next. We hear that it is going to be a very large and enthusiastic convention, and that particular attention will be devoted to the entertainment of the visitors. You know, Pabst and Schlitz are there, and they make the finest beer in the world, "the beer that made Milwaukee famous."



GUY'S HOSPITAL, LONDON, ENGLAND.



ST. THOMAS' HOSPITAL, LONDON, ENGLAND.

The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,

Editor,

69 BLOOR STREET EAST, TORONTO.

W. A. YOUNG, M.D., L.R.C.P. Lond.,

Business Manager,

145 COLLEGE STREET, TORONTO.

Surgery—BRUCE L. RIORDAN, M.D., C.M., McGill University; M.D. University of Toronto; Surgeon Toronto General Hospital; Surgeon Grand Trunk R.R.; Consulting Surgeon Toronto Home for Incurables; Pension Examiner United States Government; and F. N. G. STARR, M.B., Toronto, Associate Professor of Clinical Surgery, Lecturer and Demonstrator in Anatomy, Toronto University; Surgeon to the Out-door Department Toronto General Hospital and Hospital for Sick Children.

Clinical Surgery—ALEX. PRIMROSE, M.B., C.M. Edinburgh University; Professor of Anatomy and Director of the Anatomical Department, Toronto University; Associate Professor of Clinical Surgery, Toronto University; Secretary Medical Faculty, Toronto University.

Orthopedic Surgery—B. E. MCKENZIE, B.A., M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Surgeon to the Out-Patient Department, Toronto General Hospital; Assistant Professor of Clinical Surgery, Ontario Medical College for Women; Member of the American Orthopedic Association; and H. P. H. GALLOWAY, M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Orthopedic Surgeon, Toronto Western Hospital; Member of the American Orthopedic Association.

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Medicine—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon, Toronto General Hospital; and W. J. WILSON, M.D., Toronto, Physician Toronto Western Hospital.

Clinical Medicine—ALEXANDER MCPHERDAN, M.D., Professor of Medicine and Clinical Medicine Toronto University; Physician Toronto General Hospital, St. Michael's Hospital, and Victoria Hospital for Sick Children.

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Pediatrics—AUGUSTA STOWE GUILLEN, M.D., Toronto, Professor of Diseases of Children Woman's Medical College, Toronto.

Pathology—W. H. PEPLER, M.D., C.M., Trinity University; Pathologist Hospital for Sick Children, Toronto; Demonstrator of Pathology Trinity Medical College; Physician to Out-door Department Toronto General Hospital; Surgeon Canadian Pacific R.R., Toronto; and J. J. MACKENZIE, B.A., M.P., Professor of Pathology and Bacteriology, Toronto University Medical Faculty.

Ophthalmology and Otolaryngology—J. M. MACCALLUM, M.D., Toronto, Assistant Physician Toronto General Hospital; Oculist and Aurist Victoria Hospital for Sick Children, Toronto.

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the fifteenth of the month previous to publication.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the tenth of the preceding month.

VOL. IX.

TORONTO, MARCH, 1901.

NO. 3.

Editorials.

THE DISINFECTION OF RAILWAY CARRIAGES.

THE disinfection of railway carriages, more particularly sleeping-cars, is a matter of considerable importance, which is occasionally brought to the notice of physicians and sanitarians. Health authorities in Canada nowadays would not permit a patient known to be affected with small-pox, scarlatina, diphtheria, measles or cholera, to travel by day-coach or sleeping-car, and if by mis-

chance such a calamity were to occur, the cleansing and disinfection of the car would be expected to follow as a matter of routine. Recently a case came under the official notice of a coroner of Toronto, in which the evidence showed that a patient in the last stage of pulmonary consumption had occupied a berth in a sleeping-car and had died there. An autopsy was made, and it was found that, in addition to other *post-mortem* evidences of phthisis, the lungs of the deceased were riddled with tubercular abscesses. Evidently such a person should not have occupied a berth in an ordinary sleeping-car, and if physicians really believe in the infectious nature of the expectoration of a consumptive, they should loudly protest against such a violation of rudimentary hygienic law. Daily experience, however, shows that consumptives do occupy berths in sleeping-cars. This practice may be partly due to a survival, even in the medical mind, of the old-fashioned view that phthisis is only a constitutional disease, coupled with the allied fact that the abuse we refer to is not explicitly condemned by our sanitary law. In the instance of a person affected with one of the acute exanthems, no one fancies for a moment that any privation is inflicted if permission to travel in the company of healthy people is refused him, and in the light of modern medical science consumptives, especially those who neglect to dispose of their expectoration in a proper manner, do really endanger the health of their fellow travellers. The conclusion is obvious. As consumptives often travel long distances, in order to reach health resorts, the railway companies should feel it incumbent on themselves to supply special sleeping berths for consumptives, so constructed that cleansing and disinfection may be rapidly accomplished.

It will be difficult to induce consumptives to isolate themselves from healthy people when travelling, and the consensus of medical opinion being that the germs of tuberculosis are conveyed principally by the expectoration of a patient, as long as the consumptive disposes of his expectoration in a pasteboard box, which is subsequently burned, isolation is not required. While a precaution of this nature may suffice during the day, it cannot be enforced during the night. Hence the necessity of providing sleeping-cars for consumptives. However, before any changes in sleeping-cars are introduced, medical and public opinion will have to be educated to believe in the necessity of the change, and consumption, in its

open form at least, should be declared to be a notifiable disease, in keeping with the resolution unanimously adopted at the International Congress of Hygiene, held at Paris, August, 1900. When the opinion that the isolation of the travelling consumptive is in the public interest is generally received, special provision for consumptive travellers will easily follow. Even the patients themselves will, in many cases, acquiesce in the propriety of such action. It would be unnecessary to isolate all forms of tuberculosis. Let the line be drawn at open tuberculosis of the lungs. Physicians, no matter what their views may be on the isolation of the sick, can scarcely refuse to recognize the propriety of isolating open cases of consumption, and cautioning railway companies against allowing such patients to occupy berths in ordinary sleeping-cars.

Until the necessity of such a law is generally recognized, railway companies should be obliged by law to disinfect berths occupied by persons known or believed to have open consumption. In disinfecting a carriage, the washable surfaces in and about the berths should be wet with a solution of bichloride of mercury, one part to a thousand of water, and subsequently scrubbed with hot water and soap. The soiled bed-linen and blankets, after immersion in a mercurial solution of similar strength, should be boiled for at least an hour. The mattress and pillows, if soiled by discharges from the patient, should be disinfected by superheated steam. The curtains may also be disinfected by steam. If steam is not available, the curtains, pillows, mattresses, and the woollen stuffs of the seat-covers, should be disinfected by a hand-pump spray, such as is used on the French railway lines when dealing with similar cases. This pump can be wheeled up to a railway carriage, and while one attendant works the pump-handle, another with a hose directs a strong spray on the cushions, seats, etc. This spray generally consists of an antiseptic solution of sixty grains of bichloride of mercury to the gallon of water. A carbolic solution, carbolic acid (90 per cent.) seven ounces to one gallon of water, would be equally effectual. One great advantage of the spray system of disinfection is that the work can be done very rapidly. The 40 per cent. solution of formaldehyde can also be depended on to act as an effectual disinfectant of railway carriages, and it destroys the bacillus tuberculosis rapidly. Besides, it does little or no injury to delicate fabrics, whether dyed with inorganic or organic colors. It is cheap. It can be applied in

the form of fumes, evaporated from a common bed-sheet, as has been demonstrated by the health department service of Chicago or in one of the lamps used for the purpose, which are now on the market.

We thank the Canadian Pacific Railway Company for the information conveyed in their reply to our queries, which shows that they are indeed alive to the necessity of the strictest cleanliness and, if necessary, the disinfection, of their sleeping cars. When a matured public opinion shall call for the isolation of consumptives travelling in sleeping cars, we have no doubt that they will respond with alacrity. In the meantime, greater simplicity in the furnishing of the interiors of sleeping cars would facilitate and cheapen the process of disinfection when employed. All surfaces in and about the interior of a sleeping car should be washable. Leather should be substituted for woollen stuffs in seat-covers and backs, and washable goods for draperies. J. J. C.

ANTI-ETHYLENE.

WE feel great pleasure in placing before our readers some views on a recently discovered agent, anti-ethylene, which may prove of great value in the treatment of inebriety. The views we refer to appear in a work, entitled "Alcohol and Alcoholism," which has recently been placed before the profession by Drs. Triboulet and Mathieu. The authors say that during the last two years efforts have been made to utilize the data of sero-therapy in treating alcoholism.

In 1897, Dr. Toulouse had made some experiments with the blood-serum of dogs, which had been poisoned with alcohol. Recently Sapelier, Broca, and Thibault, have taken up the study of this subject, and though it would not be permissible to draw conclusions as yet, it is very interesting to explain the principles of the method, as laid before the Academy of Medicine, Paris, May 13th, 1899. May 22nd, 1900, Sapelier presented a statistical table of the results obtained, which show almost 60 per cent. of cures by sero-therapy.

In chronic alcoholic intoxication, say these experimenters, there is a latent period, during which, before producing the lesions of chronic alcoholism, alcohol only acts as a nerve poison. During

this period, like other poisons of the nervous system, alcohol shows its action by only two signs, habit and craving. Looked at in this fashion, alcoholic intoxication imitates morphine intoxication. From this resemblance to morphinomania, the authors propose to call the latent period of chronic alcoholic intoxication, alcoholomania.

A certain number of experimenters (Roux, Borel, Besredka, Tubini, Gioffredi, Arnozan) have discovered that, similarly to microbe poisons, certain non-microbic poisons, animal, vegetable, or mineral in origin, especially those to which the organism becomes rapidly accustomed, develop in the blood antitoxic substances or stimulines (Metchnikoff).

Each of these stimulines, injected with the serum into another organism, places it in a condition of greater resistance with respect to the corresponding poison.

The analogy between the action of alcohol and that of morphine on the nervous system, on the one hand, and experiments made with microbic poisons, on the other, have induced the authors to make with alcohol experiments made by others with morphine. They have produced in the horse the habit of willingly drinking alcohol. The blood of the animal has furnished a serum which, after having been injected into animals, which had previously acquired a habit, and even a taste for alcohol, has produced in them such a disgust for alcohol that they have preferred to abstain from food or drink, rather than continue to take alcohol.

The authors propose to give to the unknown, undefined substance contained in the serum collected under these conditions, the name of anti-ethylene. They have found it impossible to provoke any accident, local, general or toxic, in the animals experimented on, even by subcutaneous injection of excessive doses of this serum.

Clinical trials made on drunkards, or persons given to the general use of alcohol, have confirmed the experimental results obtained in animals.

The alcoholomania, treated with anti-ethylene, loses taste for strongly alcoholized drinks, such as absinthe, brandy, rum; he may even acquire a disgust for them, and lose the habit of taking them. He preserves a taste for wine; he regains his appetite and his strength. The action of anti-ethylene appears to be confined to the latent period of chronic alcoholic intoxication, called by the authors

alcoholomania. Up to the present time, anti-ethylene has shown itself powerless to cause the retrocession of the organic alterations which are due to alcohol.

The views expressed by the authors as to the action of anti-ethylene seem almost too good to be true. It will be easily conceded, however, that if these experiments should be confirmed by other observers, and it is only by the experimental method that a decision can be arrived at in this matter, the prognosis of inebriety will be brightened and its treatment simplified. J. J. C.

THE RECENT PROSECUTIONS FOR INFRINGEMENT OF THE MEDICAL ACT.

OUR friends, the retail druggists, are raising a great howl on account of the fact that some of their number were subpoenaed recently to appear before Colonel Denison for infringement of the Medical Act by prescribing over the counter. We think that we are safe in saying that, in few large cities, does there exist a better feeling between physicians and druggists than is prevalent in Toronto. There is a certain amount of truth in what the average retail druggist in Toronto claims as to counter prescribing when he states that it is a very difficult matter, especially now when the drug trade is so cut up, to know how to act when a customer walks in, perhaps complains of a pain in the stomach or elsewhere, and asks that she be given something to relieve her suffering. The druggist does not want to deliberately turn a good purchaser away, in place of punching up fifty cents or a dollar on his cash register, when the opportunity offers; but he must remember that, just as he is protected by the Ontario College of Pharmacy, so are medical men by the Ontario College of Physicians and Surgeons. It is the patent medicine trade, we think, which originally led druggists so often into this sort of a dilemma. If his customer asks straight for a bottle of this, that or the other patent medicine, the druggist has a perfect right to sell it him. He has, however, no right to dilate extensively to his purchaser as to the use of any certain remedy for the treatment of any particular condition. As to the habit that some retail druggists in Toronto have, druggists who advertise that they make a specialty of dispensing physicians' prescriptions, of deliberately putting up bottles of medicine, which

they, in their wondrous wisdom, think should cure the complaint, in many cases telling their customer, as they rake in his good cash which should have gone to the doctor, that it will save them paying the doctor a fee, it is simply unpardonable. We have heard druggists say, in answer to this, that as far as prescriptions are concerned, they might go to the poor-house if they depended upon them for their livelihood. That in some instances may be true enough, but that is no excuse for their encroaching upon the domain of, and by that means antagonizing, the physician. Another will tell us that it is the habit that some medical men have of dispensing their own prescriptions that is forcing the druggist to resort to methods such as counter prescribing. We beg to remind him that a physician's license gives him the right to put up his own prescription if he so desires, whereas the druggist's license does not permit of his contravening the Medical Act.

We consider that medical men have a perfect right to raise serious objections to those, who have done nothing more than earn their license to dispense drugs, carrying on the business not only of a druggist, but that of medical practitioner also. How many hours would it take the Druggists' Association to raise a rumpus if one of the large stores down town, who carry on a drug department, employed one who was not a graduate of the O. C. P.? Not long. In the same manner, therefore, have the doctors every reason to object if the druggists contravene any regulation of their college.

We trust that our friends, the druggists, will look into this matter, and see that it will pay them better in the end to cater to, rather than fight, the profession who can put many a good dollar in their way.

W. A. Y.

THE CANADIAN ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS.

THE Canadian Association for the Prevention of Tuberculosis, which is the outcome of the conference held at Ottawa, under the presidency of His Excellency the Governor-General, on February 14th, (*vide* page 291), should attract the attention of all who are interested in repressing tuberculosis in Canada. As the crusade against this widespread disease gains headway, the consensus of opinion is, that the public must be educated to provide for the disinfection of the sputa of tuberculous patients, thereby destroying the one great source of infection.

Public spitting should also be suppressed as much as possible. The establishment of open-air sanatoria, such as have already done good service in Europe, America and Canada, will also prove advantageous in many ways. They are training schools, where candidates for tuberculosis are taught how to live down their disease, and where patients, not yet affected with ineradicable lesions, may retrieve their losses. Instead of indulging injurious fancies, searching for amusement or mental distraction, tubercular patients can, in well-regulated sanatoria, apply themselves, while there is yet time, to the serious business of strengthening a weakened system, so as to fight energetically against the destroyer by rest or exercise, according to the indications, by proper diet, bathing and hygiene.

When they have acquired habits of self-discipline and a knowledge of hygiene applied to their disease, they become, when they return to their homes, centres of instruction to others. The results of treatment in European sanatoria are quite satisfactory, about a fourth of the patients being practically cured and the rest much relieved and improved.

The results obtained at the Gravenhurst Sanitarium, which have already been referred to in this journal, are also very encouraging.

The notification of cases of open tuberculosis should also be adopted and made obligatory. It is useless to contend that consumption is preventable, if advanced cases of this disease are not brought to the notice of the municipal health authorities, so that effective precautions to prevent the infection of others may be enforced. The question of tubercular infection through milk and meat must also be solved. Even if the tuberculin test is not applied to dairy cattle, a considerable source of peril to the public would be removed if all milk were sterilized before being used as food. In cities, at least, inspected abattoirs should supersede private slaughter-houses, and the sale of infected meat should be strictly forbidden.

There can be no doubt, that the breathing of rebreathed air in dwellings, shops, factories and public edifices is dangerous to health and weakens the lungs. The beneficial influence of pure air and sunlight in the cure of tuberculosis shows that if the patient had availed himself of these physical agencies prior to the attack, the bacilli tuberculosis would not have been able to make an impression on him. For the production of tuberculosis, two things are necessary: the seed of the disease, conveyed through infected sputa and a favorable soil, largely produced by insufficient respir-

ation and the regular use of rebreathed air, which is a poison to the lungs. If men wish to have strong lungs and enjoy the health and vigor of their ancestors, they must eschew too much comfort in their homes, and above all, learn to be as fastidious in the selection of the air they breathe as they are in the food they eat and the fluids they drink.

J. J. C.

THE PROPOSED WOMAN'S HOSPITAL FOR TORONTO.

“Patience is a virtue,
Catch it if you can,
Seldom in a woman”—

THE aforementioned patience is exactly what the medical women of our city are most in need of at present. Surely there may be some good advice in the words, “Learn to labor and to wait.” Wait—what for? they may ask. For a standing—an equal footing perhaps would express it better—side by side with the physicians upon the staff of Toronto General Hospital. Wait until their services are accepted in the Woman’s ward, not exclusively, but on equal terms with the male physicians, a fair field and no favors. This is what they asked awhile ago, and if our worthy medical women would only possess their souls and their bowie-knives in patience, their request, we firmly believe, would be granted in this new century, dawning so full of appreciation by all mankind of the worth of woman’s work in the world. But because they have asked and not immediately received the coveted blessing, they have determined apparently not to wait, but to forever resign any claim to a future invitation “to play in our yard,” and are filled with a purpose, resolutions, and “manned” with collecting books, and intend to start another hospital, all by themselves (God help them), to be owned, captained, quarter-mastered, and sailed by women, a frail little craft to withstand the storms of adverse criticism, sailing in an unknown sea, without compass or chart. Let us pause here to repeat a question—to gain what? Experience, perhaps, but at what price? The loss of a position of equality, a right to stand side by side with the ancient mariner, the physician, man though he be, who can be so helpful and also courteous when he feels respect, and when interest in a common cause has created a feeling of comradeship. Is not this position a something worth waiting for? Then why place the fixed gulf of a

small hospital for women, run by medical women, in the way? Where a woman puts herself she must stay. Once she flaunts the small flag of independence, she must expect war to the knife or a smile of pity. Let the medical woman take her stand in line at the box office of the Toronto General Hospital, and ask again and again for a seat right in the bald-headed row, and see if she does not get it sooner or later, and, obtaining it, she will assume a position that will benefit her in the eyes of the profession, and give her a higher standing for all time to come.

Give up this idea, medical women, of starting another small hospital (there are already too many); it will only prove a white elephant on your hands—a sort of “a Saratoga trunk with a fence around it,” called a Woman’s Hospital; else the man without “bats in his belfry” might be tempted to call it The Medical Woman’s Isolation Hospital.

W. A. Y.

EDITORIAL NOTES.

One of the Unanswered Riddles of Science.—Among the unanswered riddles of science, M. Gabriel Prevost proposed the following in *La Science Francaise* (Paris, December 21st): “Why do the effects of theine and caffeine, which are composed of the same chemical elements, differ according to the temperament of individuals?” In his “Text-book of Materia Medica, Pharmacology, and Therapeutics,” Butler says: “Guaranine, theine, and theobromine, while chemically almost identical with caffeine, differ from it somewhat in their physiological action. Guaranine first depresses the sensory and afterwards the motor nerves, affecting them from the centre towards the periphery. Its primary effect, in toxic doses, is to produce general hyperesthesia, succeeded by convulsions of spinal origin. Theine, in its action, very closely resembles guaranine, save that when injected it causes local anesthesia. It lowers temperature, while caffeine tends to raise bodily heat. Theobromine differs in no essential from caffeine.” The question is thus put in two different ways. Prevost says that “the effects of theine and caffeine differ according to the temperament of individuals.” Butler teaches that theine and caffeine produce different physiological effects, but does not consider the temperament of the user of the one or the other drug. Curious to learn if race characteristics might influence individuals

in the beverage use of tea and coffee, which derive their activity from these proximate principles, we asked the question of Messrs. Schwartz & Fedy, who do a grocery business with a population in which Germans preponderate. Their reply is as follows:

J. J. CASSIDY, M.D.

DEAR SIR,—In reply to yours of the 28th inst., may say that our experience in twenty-seven years' business in a German, English and Irish community is, that Germans use about 50 per cent. each coffee and tea, whereas the English and Irish use 90 per cent. tea and 10 per cent. coffee. We find amongst the Germans that the older people use more coffee than tea, the younger almost more tea than coffee. The latter custom seems to be on the increase right along.

Yours, etc.,

Formosa, Ont., Jan. 31st, 1901.

SCHWARTZ & FEDY.

According to this information, the temperament of a people is evinced in their selection of a beverage. The excitable Irish prefer the cooling tea; the phlegmatic Germans drink stimulating coffee. Instead of saying that the effects of tea and coffee depend on the temperament of individuals, it would be correct to say that individuals select one or the other beverage according to the mental effect they wish to produce, or which they find more congenial to their temperament. The increased consumption of tea among German Canadians, in opposition to the custom of their ancestors, who drank coffee instead of tea, may be due to the influence of association with other races in Canada, or a change in their temperament brought about by the stimulating climate of Canada. Although coffee and tea contain identical proximate principles, each of them possesses marked peculiarities distinguishing one from the other, and not dependent on the temperament of individuals.

An American Doctor's Opinion of King Edward VII.—From *The Journalist* of the 2nd ult. we find that Dr. Clark Bell, editor of the *Medico-Legal Journal*, published in Gotham, and who as a medical jurist is known all over America, made some very kind remarks at one of the meetings of the Blue Pencil Club in New York City, given in honor of Mr. Allan Farman, editor of *The Journalist*, about our new Sovereign, King Edward VII. Mr. Bell said all Americans who have watched the career of the late Prince of Wales, and studied the relation he bore and his influence upon the Government of England, must rejoice that he had at last come to the English throne. Without speaking of the universal

feeling of affection that our people had entertained for the late Queen, who had ruled for so many years, and at an advanced age, he could not conceal the gratification that would be felt in this country, that the reins of government had fallen into hands so able to fill the King's place in the great mission that lay before England in the opening years of the new century. Those who have most carefully studied the character and career of King Edward VII., and who have known him best, have high hopes of his ability and disposition to rise to the occasion which is before him. In his opinion the present King will throw more of his personal influence and personality into the Government of England. He is a friend to the advancement of the arts, of the culture and advocate of science and the arts. He will be able to establish and maintain what England has lacked, a Court that will be commensurate with the greatness and dignity of the nation over which Providence has called upon him to rule, and Mr. Bell predicted that he will establish and advance the glory of England in his reign more than any Englishman now in England imagines.

Current Medical Glossary Required.—The rapid progress of medicine and surgery has caused the production of an extraordinary number of words and expressions, to which may be added a considerable number of designations bearing the names of the authors of discoveries, new operations, etc. The medical dictionaries in ordinary use being incomplete in these particulars, Drs. Landouzy and Jayle, through the intermediary of *La Presse Medicale*, Paris, have undertaken to instruct physicians in the novelties of medical terminology. Some of our readers, perhaps, might be puzzled to know the meaning of *camptodactylitis*. This word is derived from *χαμπτος*, curved; *δαχτυλος*, finger (Landouzy): Permanent flexion of one or several fingers. The flexion is produced either in an isolated manner, of a second phalanx on a first, or, in an associated manner, of a second on a first and a third on a second, the palmar aponeurosis remaining sound. It is a sign of arthritism. Illustrations of the more important conditions, operations, etc., accompany the text. Decidedly the French keep ahead in medical journalism.

Congress of Tuberculosis.—Among those who arranged to be present at the Congress of Tuberculosis at Ottawa were: Sir James

Grant, Prof. J. G. Adami, Montreal; Dr. Fred. Montizambert, Ottawa, Director of Public Health; Dr. P. H. Bryce, Secretary Provincial Board of Health; Dr. A. McPhedran, Toronto; Dr. J. J. Cassidy, Toronto; Dr. John Coventry, Windsor; Dr. James Fleck, Ottawa; Dr. A. Robillard, Ottawa; Dr. D. McEachran, Montreal; Dr. A. D. Blackader, Montreal; Dr. A. I. Richer, Montreal; Dr. J. Cousins, Ottawa; Dr. Colin Sewell, Quebec; Dr. R. W. Powell, Ottawa; Dr. T. G. Roddick, M.P., Montreal; Dr. Chas. Sheard, Toronto; Dr. A. P. Reid, Halifax; Dr. E. P. Lachapelle, Quebec; Dr. J. A. Grant, Ottawa; Dr. William Britton, Toronto; Sir Wm. Hingston, M.D., Montreal; Dr. E. J. Barrick, Toronto; Dr. Wm. Bayard, St. John, N.B.; Dr. H. H. Chown, Winnipeg; Dr. J. D. Lafferty, Calgary; Dr. J. C. Davis, Victoria; B.C.; Dr. James Thorburn, Toronto; Dr. James Stewart, Montreal; Dr. H. A. LaFleur, Montreal, and others. Drs. J. J. Cassidy, N. A. Powell, P. H. Bryce, E. H. Barrick, G. S. Ryerson, and others, were unfortunately prevented from reaching Ottawa at all owing to getting stuck in a C.P.R. snowbank near Peterboro'.

"American Medicine."—Dr. Geo. M. Gould, who, as explained in our February issue, was retired from *The Philadelphia Medical Journal* recently, will publish this month the first issue of a new American medical weekly, entitled *American Medicine*. Dr. Gould will be Editor and Dr. Martin B. Tinker Assistant Editor. The collaborators will consist of Drs. David Riesman, A. E. Woldert, Helen Murphy, J. C. Bloodgood, A. B. Craig, Chas. A. Orr, Wilmer Krusen, Frank C. Hammond, J. W. Hirst, A. O. J. Kelly, C. S. Dolley, H. H. Cushing, A. A. Stevens, L. F. Appleman and J. W. Macintosh. The journal will cost \$4.00 per annum and, as announced on the advance proof, "will be founded, owned and controlled by the Medical Profession of America." We wish our esteemed friend, Dr. Gould, and his confreres every possible success in their new venture, and look to their new production as one of the greatest exponents of medicine in this country.

An Urgent Appeal for a Physician.—It is not often we hear of a town fairly crying out aloud for a doctor. Such, however, is the fate of the town of Strathcona, Alberta. Our correspondent says, "If you know of a medical man looking for a location, there is a very good opening here for the right kind of a man, middle-aged

preferred, one who is steady and reliable, and in vulgar parlance, "a good head," not necessarily "one of the boys," as the phrase is usually applied. The town of Stratheona has a population of 1,500, and is the terminus of the Edmonton Branch of the C.P.R. It has two drug stores, and in all fifty merchants. There is a telegraph and an express office. Any physician who thinks this would suit him should address at once Mr. Frank Cowles, Stratheona, Alberta.

Unreliable Statistics.—While ever ready to praise vital statistics for the lessons they teach, as well as for the labor entailed in their compilation, physicians know that in the making out of a death-certificate, veracity and medical science are occasionally sacrificed to family pride. Thus, in the Ontario vital statistics of 1898, fourteen deaths are credited to syphilis and seventeen deaths to alcoholism. While pathology teaches that a gumma of the brain is of syphilitic origin, physicians know of the far-reaching effects of that unwritten law, which says: "It would never do to write syphilis on the death certificate of a respectable citizen." Similarly if a gentleman dies of alcoholism, the actual cause of his taking off may be whispered among his acquaintances, but must not find its way into the Registrar-General's annual report.

Bank Bills the Nidus of Every Disease.—Has it ever occurred to our readers how dangerous a dirty bank bill can become? The public complain of how modern medicine has frightened those not cognizant with medical lore, regarding almost everything they touch as being pregnant with bacilli or germs of every conceivable form and shape. It is better to be forewarned rather than forearmed, and all that would have to be done to establish the truth of our statement would be to have one of our filthy bank-bills subjected to a bacteriological examination, when it would be found to contain disease germs sufficient to infect a whole town. Why do not our Government do as the Bank of England, and never issue one of their bills twice?

Death of the Editor of the "Medical Press and Circular."—On Saturday, January 9th, Archibald Hamilton Jacob, B.A., M.D., T.C.D., F.R.C.S.I., died at his residence in Dublin, Ireland. Dr. Jacob's fame as a physician, a writer, and an editor for thirty-

five years of the *Medical Press and Circular*, is well known. He was a man of many parts; he combined the arduous work of a large public and private practice with the never-ending duties of the editor of a well conducted and largely circulated medical journal. His place will be difficult to fill with even a measure of his ability.

The New Sanitarium for Consumptives.—A meeting of the Executive Committee of the National Sanitarium Association was held at the National Club, Saturday afternoon, February 9th. Various reports were presented. Plans for a free hospital for poor patients in the early stages of consumption were reported ready. Several sites for the erection of a hospital near Toronto for incurable cases were discussed. These will be submitted for the approval of Dr. Sheard, Toronto Board of Health, before final action is taken. Mr. Walter James Brown was appointed Secretary, and will enter upon his duties immediately.

The Death Rate in Ontario for 1900.—For the year 1900, the total deaths from all causes in Ontario, based on returns representing about 90 per cent. of the population, were 25,381, or 11.5 per thousand, which is an exceedingly low death-rate. The deaths from contagious disease were as follows: Scarlatina, 135; diphtheria, 486; measles, 93; whooping cough, 123; typhoid fever, 550; tuberculosis, 2,260.

PERSONALS.

DR. RENNIE has been appointed Health Officer of Hamilton, Ont.

DR. A. G. WOODWARD, of Sherbrooke, died a few weeks ago at his home.

DR. CHAS. TROW left for Bermuda last month, and will spend a few weeks there.

DR. J. M. MACCALLUM looks very much the better of his trip to Oregon a month ago.

DR. GEO. R. McDONAGH left on the 9th ultimo for a two-months' trip to Jamaica.

THORBURN.—At Toronto, on February 16th, the wife of Dr. J. D. Thorburn, of a daughter.

DR. J. A. CREASOR has moved from Brunswick Avenue back to Spadina Avenue; his number is 718.

DR. J. T. CLARKE has moved from College Street to 410 Bloor Street West, opposite Spadina Avenue.

DR. VAUX, of the Provincial Board of Health, has taken up his residence at the Arlington Hotel, Toronto.

DR. HAMILL, who conducts the Medical Exchange Office, wishes us to say that now is a most opportune time for physicians desiring to sell their practices to place them in his hands, as he has many more vendees than vendors.

DR. EAKINS, physician at the Institute for the Deaf and Dumb, Belleville, died after a very protracted illness on February 14th. The deceased had been physician to the institution for a great many years. Dr. P. D. Goldsmith has been appointed to succeed Dr. Eakins as physician.

ON the 18th February, Dr. James Third, of Kingston, was reported to be in a very low condition from an attack of paralysis, and little hope was held out for his recovery. He is a graduate of Trinity, a former house surgeon of Toronto General Hospital, and for the past four years has been Superintendent of Kingston General Hospital.

DR. EZRA HURLBURT STAFFORD left a day or two ago from New York, where he spent the past month, en route for "Greenland's icy mountains;" but will not travel as far as "India's coral strands." "Ezra" has secured the appointment of surgeon to the annual sealing fleet, and will remain in that spring-like (?) climate for about a month.

DR. J. J. MACKENZIE, Professor of Pathology of Toronto University Medical Faculty, leaves in April for the Continent. The Doctor will visit Berlin, Heidelberg, Vienna, Cologne, and other cities on the Continent, and will spend some weeks in England and Scotland, ere sailing for home in August. Dr. Mackenzie proposes making further study of his specialty, and getting hold of the most recent ideas on that subject, so that his course of lectures on pathology next session will be second to none in America.

DR. MICHAEL LAVELL, of Kingston, died on February 18th, aged seventy-six. He was a native of Quebec. In 1872 he was appointed surgeon of the Kingston penitentiary, and succeeded the late John Creighton to the wardenship in 1888, resigning in 1895. He was an ex-professor of Queen's Medical College, and is survived by a large family. One son is a Methodist minister at Ayr, another son is practising law at Smith's Falls and is M.P. for South Lanark. One daughter is the wife of G. Y. Chown, registrar of Queen's College.

ITEMS OF INTEREST.

The Prince a Physician.—A humorous friend of the Prince of Wales (before he ascended the throne) recently gave him a silver stethoscope as a present, the point lying in the not generally known fact that His Royal Highness has been given diplomas as a Physician and Surgeon.

Rats a Means of Spreading the Plague.—Since the slight outbreak of bubonic plague at Cape Town last month, the authorities have placed a value of threepence upon the head of every rat, they having decided that the rodents might be the means of unduly spreading the disease.

Garbage and Mendelssohn.—"Garbage and Mendelssohn" was a woman's answer when someone asked what had been her share in the club programme for the day. "You see, I'm chairman both of the Municipal Housekeeping and the Music Committees, and first I had to read my report of our crusade against the present disposition of garbage, and then I had to go to the piano and play some songs without words. Oh, our women's clubs are nothing if not versatile."

Thiocol in Pulmonary Tuberculosis.—Professor De Renzi (*Supplimento al Policlinico*), President of the Tuberculosis Congress held at Naples in April, 1900, expressed his opinion as follows: "The observations made by my associate, Prof. Boeri, and myself, during the past year, have convinced me that Thiocol-Roche and its solution in orange syrup are well borne and exercise a beneficial influence on the course of pulmonary tuberculosis. On account of its mode of action, this new remedy seems to me preferable to all other preparations of creosote and guaiacol."

Ontario Medical Association.—The Committee of Arrangements of the Ontario Medical Association are already getting together with reference to the 1901 meeting, which takes place on the 19th and 20th of June next. Last year's meeting was a wonderful success, and even yet it is a common thing to hear nice remarks as to the recherche character and quality of the dinner given to the out-of-town members on the evening of the first day, under the guiding banner of Allen Baines, J. F. W. Ross, and Bruce Rior-

dan. This year's meeting will outstrip all. The Committee have something "up their sleeve," and are determined that 1901 will in every way beat the record.

Highfields Consumption Sanatorium, more especially for the scientific treatment of advanced cases of the disease, has vacancies for two or three more patients. This institution is very pleasantly situated on the high ground north of Toronto; is well lighted and ventilated, and provided with sunny balconies. An ozonizing apparatus has been imported from London for ozonizing air for inhalation, found so beneficial in the Manchester Hospital for Consumptives. Following are the names of the consulting medical staff, general and special: Drs. Arthur Jukes Johnson, F. Le M. Grasett, Irving H. Cameron, Adam H. Wright, Henry H. Moorhouse, Alexander McPhedran, J. J. Cassidy, James H. Cotton, Charles McKenna, Leslie M. Sweetnam, George A. Bingham, George A. Peters, Edmund E. King, Norman Allen, William H. Pepler, Walter McKeown, Charles A. Temple, Harry B. Anderson. Specialists—Drs. J. Price-Brown, J. Murray McFarlane, George H. Burnham, G. Sterling Ryerson, Harold C. Parsons, William Goldie. Resident Medical Superintendent, Dr. Edward Playter. Pamphlet and terms sent on application to the "Medical Superintendent, Highfields, Deer Park, Ont."

Canadian Students in the University of Michigan.—According to the records of the University of Michigan there have been students in the institution from one or more of the Provinces of the Dominion of Canada every year since 1871. By far the largest number have registered from Ontario. The other provinces that have been represented at different times are New Brunswick, Quebec, Nova Scotia, Manitoba, and British Columbia. The largest number of Canadian students enrolled at one time was 51, during the years 1888-90. The smallest number registered at one time was 17, in 1895-96. The largest number from Ontario in any one year was 45, in 1889-90. The number of Canadian students has not been so large for the last five years as during the preceding twenty-four years. Nearly one-half of the students who have entered the University from Canada have registered in the department of medicine. In 1875-76 there were 35 enrolled in that department. Second to the medical department in number of Canadian students has come the law department, and after the law the homeopathic department.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

THE QUEEN'S FATAL ILLNESS.

To the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY.

DEAR SIR,—The following is clipped from the *Toronto World* of January 24th, 1901, and interested me very much, and I thought might interest your readers. It is a full and complete description of the Queen's fatal illness, as found in the press of to-day:

New York Herald : Queen Victoria appears to have succumbed to a second attack of apoplexy, while the pulmonary congestion which followed the first attack seemed to remain stationary and not pass to a state of broncho-pneumonia.

This attack of apoplexy, which was to all appearance accompanied by paralysis of half the face and body, was the consequence of thrombosis—that is to say, a small clot in one of the arteries that feed the brain.

The clot forms of itself because the inner wall of the arterioles of the brain hardens and becomes, so to speak, sclerous or atheromatous. The clot reduces the size of the artery, and prevents the blood from passing through, thus to some extent withdrawing life from the cerebral region, which it is the function of the artery to irrigate. The region, no longer nourished, softens and dies. All functions that are dependent are suppressed with it, and if it extends, death results more quickly in proportion as the cerebral region suppressed is greater.

In the treatment of thrombosis, stimulants of all kinds are prescribed, also everything that quickens circulation of the nervous centres and supplementary insufficiency of irrigation from the artery, but, if the blocking of the artery is considerable, therapeutics become powerless.

Sincerely,

Toronto, Jan. 24th, 1901.

J. W. S.

The Physician's Library.

BOOK REVIEWS.

Orthopedic Surgery. A Handbook, by CHARLES BELL KEETLEY, F.R.C.S., Surgeon to the West London Hospital; Member of the British Orthopedic Society; Corresponding Member of the American Orthopedic Association. London: Smith, Elder & Co., 15 Waterloo Place. 1900.

The amount of space ordinarily allowed is not sufficient for a satisfactory review of such a book as this. There are many chapters which the reviewer must stamp with the most hearty approval, but there are two or three chapters which do not truly reflect the present status of orthopedic surgery.

Whatever the author has to say is said with much directness, in strong, terse English; and when he has something to condemn there is no mistake about the attitude which he assumes. His refusal to limit the definition of orthopedic surgery to some one definite statement is commendable. In his own words "orthopedics as a department of surgery has developed in accordance with professional and individual convenience."

In the discussion of conditions such as genu valgum, genu varum and others demanding osteotomy, he speaks with the wisdom that comes from experience. In the discussion of symptoms, prognosis and treatment, his advice is not only safe, but fully up-to-date, and will be endorsed by those who have had much experience in dealing with these cases. The use of braces receives but scant attention and, by implication, his hearty condemnation in most cases. Correctly, "The treatment in confirmed and severe cases in adults and adolescents is summed up in two words, 'Macewen's Osteotomy.'"

With good judgment he gives but a short chapter to osteoclasia. It is strange that any surgeon at the present time should give much attention to osteoclasia, in view of the simplicity of osteotomy and of the exactness which may be attained in the use of the osteotome, and of the safety which attends its use where proper asepticism is observed.

When one recalls the fact that rickets is spoken of as the "English disease," one is scarcely surprised that the author has given us an excellent chapter on that subject, especially from the standpoint of the deformities which are dependent upon the disease.

The same warm commendation may be given to his chapter on infantile paralysis and to that on the cerebral paralyses of children. Surgeons have done but little until recently to relieve the unfortunates who suffer from deformities due to paralyses of congenital origin. There are few departments, however, of orthopedic surgery where more gratifying results can be secured, if we remember the hopeless state of many of these children without surgical aid and select proper cases for operation. Surgical intervention is not of much value in patients whose intellectual condition is much below par. Probably sixty per cent. of these children are found to have mental as well as locomotor disability. If operative intervention be prudently employed and confined to the children whose intellectual status is normal, results will well repay the efforts put forth.

The chapter on flat-foot can fairly receive general commendation, but greater emphasis should be laid upon the physiological development through training of the structures whose duty it is to hold the foot in a normal position,

and also upon the proper construction of boots adapted to supplement the weakness of the foot.

It is with some hesitation that we refuse to give a like commendation to the chapter dealing with congenital club-foot. We must take issue with the author in his advice that the treatment should begin as soon as the child is born, if by that he means that any form of brace or bandage should be employed from that date. These feet and legs are imperfectly developed and under the most favorable circumstances are likely to be smaller than normal. If they are to be subjected to the restrictions implied by mechanical treatment during the months when normal development is so important, irreparable injury is done thereby. As there is no natural means by which the foot can be held in a corrected position, until the child is able to walk, the surgeon need not actively intervene until very near that time in the child's development. From birth, the child's foot should receive treatment, however, by the nurse or mother. Manipulation by which the foot is daily or several times a day brought into an improved position, and by which circulation and nutrition are improved, should be employed. If it be assumed that the child will be able to walk at fifteen months, then there is ample time for the surgeon to have fully completed his task, if he apply his mechanical means of treatment for the first time when the child is about a year old.

In dealing with cases in older children and in the adult, we must also take decided exception to the author's teaching. He is a strong advocate of radical measures by which whole bones or portions of bone are removed from the outer convex aspect of the deformed foot. The reviewer wishes to say, after a very considerable experience, that such radical operations are very seldom required, that in ninety per cent. of cases under forty years of age the deformity can be corrected in the most satisfactory manner as to both form and function without the removal of bone and without Phelps' open incision. While with aseptic precautions there need be no fear of this operation, yet without risk of successful amputation it may be asserted that where simpler means can successfully replace the foot, such radical measures as removal of the astragalus and cuboid, or the removal of a cuneiform section from the foot, or the free open incision by which structures are cut at the inner border of the foot, should not be employed. The after treatment of these patients is most important, and the omission of any reference to the means to be employed to prevent relapse is inexcusable.

A short but good chapter has been contributed upon the subject of hysteria in relation to orthopedics. The author, however, falls into error in belittling the influence of training, as it is capable of being employed in an orthopedic gymnasium under competent supervision.

The subjects which have occupied the attention of orthopedic surgeons in a large degree in late years, such as congenital dislocation of the hip and coxa vara, have received excellent discussion and these chapters are brought fully up-to-date.

His presentation of the subject of spinal deformity falls below the average level of the book, especially in that part of it referring to scoliosis. The author pins his faith very largely to the use of mechanical appliances, especially the plaster-of-Paris and felt jackets. Old prejudices die hard, and while it is true that numerous surgeons still are found who believe that with the pelvis as a base, props can be carried upward twelve, fourteen, or sixteen inches, and can at that distance from the fulcrum exercise a lever power to hold the thorax in a corrected position, yet it must, for the credit of the mechanical perception of the profession, be said that they are rapidly giving up a position so untenable. His discussion of the work done in the gymnasium for the treatment of lateral curvature would imply that the efforts put forth are limited to the use of free gymnastics or nearly so. Such, however, should not be the case. Most powerful means may be employed to extend and straighten the spine in the use of suspension by the neck, while at the same time a lateral force varying from fifty to one hundred pounds is employed so as to correct both the rotation and lateral deviation. The author very properly speaks of these cases as being of

two varieties, those in which there is a fixed deformity and those in whom the deformity is one of posture. All will admit the efficacy of training by the aid of gymnasium work in the latter class. It is possible in the former class, by the forcible means above named, to increase greatly the suppleness of the spine and to lessen in some cases the amount of rotation. As supplementing this employment of force, free gymnastics now have an important place.

It is very gratifying to find a book written with such candor, force and evidence of knowledge through actual experience with the subject in hand. The general practitioner will find it a thoroughly safe guide, and the specialist will find in most of its chapters that it faithfully mirrors the best orthopedic practice.

B. E. M.

Introduction to the Study of Medicine. By G. H. ROGER, Professor Extraordinary in the Faculty of Medicine of Paris; Member of the Biological Society; Physician to the Hospital of Porte-D'Aubervilliers. Authorized translation by M. S. GABRIEL, M.D. With additions by the author. New York: D. Appleton & Co. 1901. Canadian Agents, George N. Morang & Co., Limited, Toronto.

Dr. Roger's book is composed of a series of lectures delivered by him before the University of Paris two or three years ago. The work is certainly one which will enable those entering upon the study of medicine to choose wisely the path they had best pursue, the books they shall buy, the methods they shall adopt, so that they will avoid covering the large amount of ground twice or unnecessarily. Ask any doctor whether during his primary year at college he followed the course he would pursue to-day, were he starting in again on the study of medicine, and ninety-five out of a hundred will say "No," and add that they would have been delighted had they at that time had some person to advise them and show them how to study systematically, with the least effort and the best result.

The author devotes quite a large amount of space to the "Examination of the Sick," including examination of the integuments, general rules for the examination of the circulatory and respiratory organs, the digestive canal, liver, spleen, pancreas, peritoneum, urinary and genital organs, and the nervous system. Dr. Roger shows very conclusively that it occurs too frequently that the physician is misled by attributing the pain complained of by his patient to the organ in the immediate vicinity of the pain, in place of being only the manifestation at that point of a disease situated at some more distant spot. An individual complains of pain in the stomach and frequent vomiting. Gastralgia is at once thought of, and the stomach is treated with negative result. In this case, failure to relieve the patient is due to the fact that the gastric symptoms were those of ataxia. At some other time a patient with some spinal disease complains of pains irradiating in the limbs or located in one or several of the joints; these pains are too hastily referred to rheumatism and sodium salicylate or antipyrine are prescribed without effect. The author cites those cases in order to show the student the absolute necessity of examining all the organs in a systematic manner, and that to do so is the only means of avoiding such gross errors. We enjoyed perusing "Introduction to the Study of Medicine." It is full of good common sense, and the best advice we can give to those embarking upon a course of medical study is, "Buy Dr. Roger's book, mark, learn, and inwardly digest it."

W. A. V.

Patroon Von Volkenberg: A Tale of Old Manhattan in the Year 1699. By HENRY THEW STEPHENSON, illustrated by C. M. RELYEA. Second edition. Toronto: The Copp, Clark Company, Limited, Publishers.

An interesting tale of love and adventure in the New World, during the romantic period of the early English occupation of New York, when the Governments of Europe and especially of England were using their utmost endeavors to quell the lawless buccaneering, which at that time seemed almost the only code of morals on the high seas.

The introduction of the story finds us in Paris, rapidly shifting to Bristol, then only second in importance as a seaport town to London, thence to Yorke (New York City), the scene of the story, always an interesting background for fiction in those stirring times. We are introduced to the two factions of political thought in the town, as well as to the two races at that time so closely associated, viz., the English and Dutch.

The Patroon is identified with the Merchants' Party, which really represents the interests of the smugglers. Von Volkenberg's character is drawn with a strong hand as captain of the "Red Band," who were hand in glove with the adventurous pirates, who then frequented what is now known as the great seaport of New York. His career as portrayed in the story carries us along with him in all his escapades against law and order, and holds our unflagging interest to the end.

As an offset to the villainous father, we have the character of his daughter Miriam delightfully portrayed in its tenderness and devotion to her father, who seems to little deserve it, but divided in her allegiance to him and to his sworn enemy who is hounding him to his well-deserved end, this same enemy having fallen violently in love with the sweet Miriam, his enemy's daughter.

The interest of the story is intensified by several most artistic, colored plates, and we can promise to all who read this delightful tale some pleasant hours, as well as a most instructive acquaintance with the people and interests of those early days in the English Colony of the New World.

W. J. W.

A Text-book on Practical Obstetrics. By EGBERT H. GRANDIN, M.D., Gynecologist to the Columbus Hospital; Consulting Gynecologist to the French Hospital; Fellow of the American Gynecological Society of the New York Academy of Medicine; of the New York Obstetrical Society, etc., etc.; with the collaboration of GEORGE W. JARMAN, M.D., Gynecologist to the Cancer Hospital; Instructor in Gynecology in the Medical Department of Columbia University; Fellow of the New York Obstetrical Society. Third edition, revised and enlarged. Pages 511; octavo. Philadelphia: F. A. Davis Co., Publishers.

A third edition of this practical and useful work strongly attests to its continued favor and popularity. This edition has been carefully revised, in part rewritten and enlarged by the addition of a chapter dealing with Embryology and the Anatomy of the Female Organs of Generation. In this chapter the authors, however, have wisely adhered to the plan set forth in the preface of their first edition, of leaving to special text-books of anatomy, physiology, embryology and pathology, the abstract knowledge of these specific subjects, and giving only such data of an anatomical and embryological nature as are essential to the amplification of obstetric teaching. The work is, therefore, quite modern, as it is essentially a clinical and practical treatise, and will enable not only the student but also many practitioners to become thoroughly familiar with the complex phenomena of pregnancy, labor and the puerperal state. One of the most admirable features of the book are its numerous illustrations, fifty-two full-page photographic plates and one hundred and five illustrations on the text having been prepared and selected with the special end in view of teaching graphically. The photographic illustrations are beautiful, clear and intelligent, and will prove wonderfully helpful and valuable to the student in forming a comprehensive understanding of his subject.

The chapters on the Mechanism of Labor, The Clinical Cause of Labor, The Management of Normal and Abnormal Labor, and The Care of the New-born Infant, are most practical and are of especial value and interest. The chapters also on The Normal Puerperium and The Pathological Puerperium are deserving of great praise. As regards the obstetric surgery taught, it is thoroughly modern, up-to-date, and the great value of election in obstetric surgery fully exemplified. It is a perfectly safe and satisfactory text-book; no student can make a mistake in making the work his guide and teacher, and no practitioner will regret placing it upon his book shelves and frequently referring to its interesting and practical pages.

G. T. M'K.

On the Use of Massage and Early Passive Movements in Recent Fractures and other Common Surgical Injuries, and the Treatment of Internal Derangements of the Knee Joint. By WILLIAM H. BENNETT, F.R.C.S., Senior Surgeon to St. George's Hospital; Member of the Court of Examiners, Royal College of Surgeons of England, etc. Reprinted, after revision, from *The Lancet*. With 12 illustrations. Pp. 97. \$1.25. London, New York and Bombay: Longmans, Green & Co. 1900. Canadian Agents, J. A. Carveth & Co., Toronto.

This book consists of a series of lectures and a reprint of a paper from *The Lancet*. The subject dealt with is a most practical one, and which is demanding a great deal of attention among surgeons at the present time. The French surgeon, Lucas-Championnière, published his work, entitled "Traitement des Fractures par le Massage et la Mobilisation," in 1895, and he, more than any other living surgeon, demonstrated the fact that massage and passive movement were scientific methods of utility in the treatment of recent fractures. Mr. Bennett has advocated these methods in fractures and injuries to the joints, and in the little volume now under review, he has indicated the principles of such treatment in a concise and lucid manner. He claims for the method the following advantages: (1) The ease with which the patient is made comfortable by arresting the muscular spasm, and so relieving the pain. (2) The effecting of the rapid absorption of effused blood, etc. (3) The prevention of stiffness, by obviating the formation of adhesions. (4) The prevention of muscle wasting with preservation throughout the case of the normal nutrition of the limb. (5) The shortening of the time by about half, during which the patient is prevented from resuming the ordinary use of the limb. These are advantages which are undoubtedly of great moment, and one is safe in saying that the great majority of surgeons have been convinced in recent years, either by personal experience or by the literature of the results reported by other surgeons, that the methods here advocated are of great value in the treatment of this class of injuries. We recommend Mr. Bennett's book to those who wish to acquire a knowledge of the principles of the method of treatment. The book also contains a suggestive and instructive paper on "Dislocation of the Semilunar Cartilage of the Knee Joint and Allied Conditions."

A. P.

Studies in Human and Comparative Pathology. By WOODS HUTCHINSON, A.M., M.D. Edited by D. EDWARD BLAKE. London: Henry J. Glaisner, 57 Wigmore Street, Cavendish Square. 12s. 6d. net.

Dr. Hutchinson, the author of this work, is Professor of Comparative Pathology in the University of Buffalo, and the book itself is dedicated to Roswell Park; but although an American, a great deal of his material has been gathered in London, notably from the Zoological Society's Gardens, a place which has proved a mine of interest to many other comparative anatomists and pathologists.

The author in his preface states that the book is an outline substitute for what he had intended would be a complete memoir on the subject, and the reader must regret that the intention was not realized. One feels that the treatment has been somewhat sketchy and although every page is full of suggestion one would like to have had a fuller discussion of many of the points.

The author is a biologist and is thoroughly catholic in his treatment of pathological phenomena from the broadest biological standpoint, but it is just this breadth of view which will render it difficult for the old-time physician to follow his arguments.

As we have said, every page is suggestive and interesting, but perhaps two of the most interesting chapters and certainly two of the most original are those upon the Developmental Diseases of the Thorax and upon the Skin, Heart and the Blood. In the former the author shows very conclusively that the so-called flat chest is really a relatively deep chest and approaches more nearly the quadrupedal type, and in the latter he makes some very original suggestions as to the functions of the arterial muscle fibre and the capillary

endothelium, especially as throwing light upon the action of the cold bath in typhoid and the bath in the Nauheim treatment.

One fault we have to find with the author, and that is in his somewhat metaphorical style, which is, in places, almost flippant.

We shall look with interest for other contributions from Dr. Hutcheson, for although we are not convinced that he has always established his thesis, we are fully convinced that his method is the correct one.

J. J. M'K.

Rudiments of Modern Medical Electricity, arranged in the form of Questions and Answers, prepared especially for Students of Medicine. By S. H. MONELL, M.D. (New York), Professor of Static Electricity in the International Correspondence Schools; Founder and Chief Instructor of the New York School of Special Electro-Therapeutics; Member of the New York County Medical Society; Member of the Kings County Medical Society; Charter Member of the Roentgen Society of the United States; formerly Editor of the Electro-Therapeutic Department of the *Medical Times and Register*, 1894-98; Author of "The Treatment of Disease by Electric Currents," "Manual of Static Electricity in X-ray and Therapeutic Uses," "Elements of Correct Technique," "The Cure of Writers' Cramp and the Arm Troubles of Telegraphers and Ballplayers," etc., etc. New York: Edward Pelton, Publisher, No. 19 East 16th Street. 1900.

This work of one hundred and sixty-five pages is arranged in the form of questions and answers, and covers the rudiments of medical electricity very fully. It is a very useful work for students or others who wish in a short and convenient form to learn something of electricity before purchasing batteries or reading larger and more complete works on the subject.

There are a number of illustrations of batteries and appliances distributed through the work. The author is evidently an enthusiast in electro-therapeutics, and very properly insists on a thorough knowledge of each current and its mode of application, comparing the knowledge in this line to the intimate knowledge of individual drugs required for their rational administration in therapeutics. We think, for those who have no knowledge of electricity, there is more to be learned from this little work in a few hours than by days of patient work on any of the ordinary text-books on the subject. W. J. W.

An American Text-book of Physiology. By Henry P. Bowditch, M.D., John G. Curtis, M.D., Henry H. Donaldson, Ph.D., W. H. Howell, Ph.D., M.D., Frederick S. Lee, Ph.D., Warren P. Lombard, M.D., Graham Lusk, Ph.D., F.R.S. (Edin.), W. T. Porter, M.D., Edward T. Reichert, M.D., Henry Sewall, Ph.D., M.D. Edited by Wm. H. HOWELL, Ph.D., M.D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Second edition, revised. Philadelphia: W. B. Saunders & Co. 1900. \$3. Canadian Agency: J. A. Carveth & Co., Toronto.

The second edition of "An American Text-book of Physiology" is issued in two volumes. The first volume was published in the latter part of last year, and the second volume is now at hand.

The second volume is quite equal to the standard of the first, and the publishers have added to its value by issuing it with such commendable promptness. It contains chapters on Muscle and Nerve, The Central Nervous System, The Special Senses, Special Muscular Mechanisms such as Walking and Voice Production, and a final chapter on Reproduction.

"The section dealing with the Central Nervous System has been recast in large part, with the intention of making it more suitable to the actual needs of medical students." It is divided into three parts and forms a very interesting and readable chapter. Part I. deals with the Physiology of the Nerve Cell; Part II. with the Physiology of Groups of Nerve Cells, and Part III. with the Physiology of the Nervous System taken as a whole.

In the last chapter the subject of Reproduction is treated in a general way. The writer does not attempt to give a detailed account of the various stages of

development in the individual embryo, but deals with the main facts in the whole process of reproduction. A few of the leading subjects discussed in this section are: The Origin of Sex and Theory of Reproduction, Menstruation, Theory of Menstruation, Physiological Effects of Pregnancy upon the Mother, Parturition in General, Growth of the Body after Birth and Heredity. The whole chapter is stored with facts that are of great interest to every student of medicine.

A. E.

Students' Edition: A Practical Treatise of Materia Medica and Therapeutics, with special reference to the Clinical Application of Drugs. By JOHN V. SHOEMAKER, M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital; Member of the American Medical Association, of the Pennsylvania and Minnesota State Medical Societies, the American Academy of Medicine, the British Medical Association; Fellow of the Medical Society of London, etc., etc. Fifth edition. Thoroughly revised. 6½ x 9½ inches. Pages vii-770. Extra cloth, \$4.00, net; sheep, \$4.75, net. Philadelphia: F. A. Davis Company, 1914-16 Cherry Street.

In his Students' edition, Dr. Shoemaker has acted wisely, and decided, on account of the recent multiplication of remedies from both the chemical laboratory and from the animal kingdom, that he shall in future issue his well-known work on "Materia Medica and Therapeutics" in two distinct parts. The one which he shall style the Students' edition, shall not be burdened with facts regarding remedies which have come to light of more recent years and months, and which are not essential to the study of the subject as demanded by university or college examiner; though at the same time it shall contain all the preparations official in the pharmacopeias of the United States and Great Britain. We consider the division of a book on such a subject a very good one, as not only is it unnecessary to load the student's brain with matter which does not concern him as a student, but, on the other hand, the physician must have a book on therapeutics, which is in every point up-to-date, and contains the very latest and most recent remedy or method of treatment. We look forward to Dr. Shoemaker's Physicians' edition with a good deal of pleasure, as, judging from the fourth edition of his work, it will be in every respect complete and exceedingly acceptable.

Physical Diagnosis in Obstetrics. A Guide in Antepartum, Partum and Postpartum Examinations for the Use of Physicians and Undergraduates. By EDWARD A. AYERS, M.D., Professor of Obstetrics in the New York Polyclinic; Attending Physician to the Mothers' and Babies' Hospital. With illustrations. New York: E. B. Treat & Co., 241 W. 23rd Street. 1901. Price, \$2.00.

We had not read many chapters of this book before it occurred to us that now we had in book form something which had for years been an actual necessity. For years past in all the medical schools and universities, more and more attention is being given to clinical teaching, so that when a student walks out a graduate in medicine he is able at once to intelligently treat those who are fortunately, or perhaps unfortunately, placed in his hands as patients. A great deal of attention has been given to bedside teaching in medicine, and also in surgery; but we fear that, if there is any branch to which too little time is given at the bedside, it is unquestionably that of obstetrics. Time and again we have heard graduates of several years' standing state that, when they entered upon practice, all they knew about midwifery was what they had read in "Play-fair," and what knowledge they had absorbed as they stood around the room and saw a head or breech presentation in twelve confinement cases. Is such an amount of practical experience anything like sufficient to enable any graduate to leave his *Alma Mater* and go into the country, perhaps fifty miles from a consultant, and manage alone a transverse presentation? It is certainly not; but, with a work such as that of Dr. Ayers' at hand, a complicated case will be

rendered much more easy, and the mind of the practitioner who finds himself frequently "in a corner" and puzzled, set at ease. We congratulate the author and the publishers upon the result of their labors.

W. A. Y.

A Text-book of Pharmacology and Therapeutics on the Action of Drugs in Health and Disease. By ARTHUR R. CUSHING, M.A., M.D. (Aberd.), Professor of Materia Medica and Therapeutics in the University of Michigan, formerly Thompson Fellow in the University of Aberdeen, and Assistant in the Pharmacological Institute of the University of Strassburg. Second edition, revised and enlarged. Illustrated with forty-seven engravings. Philadelphia and New York: Lea Brothers & Co. 1901.

It speaks well for the popularity that this book has met with, when it is only a little over a year ago that the first edition appeared. The author has brought this edition up-to-date, and has made many useful additions. Prof. Cushing has been very frank in culling the bad from the good, and endeavors to give us as exactly as possible the advantages various drugs have. Too many physicians rely on the accuracy of patent nostrums, or, as they are usually called, proprietary medicines, and do not give the drugs mentioned in the Pharmacopeia even a chance, and in this way accurate information of the therapeutic action of a drug is lost. The book is well arranged, and the illustrations simple and easily understood. It will take a prominent place with the student and active practitioner.

Part I.—Organic Substances which are Characterized Chiefly by Their Local Action, such as emollients, simple bitters, genito-urinary disinfectants, skin irritants.

Part II.—Organic Substances, Characterized Chiefly by Their Action After Absorption, such as narcotics in general, strychnia, prussic acid, formaldehyde, ergot, etc.

Part III.—Combinations of the Alkalies, Alkaline Earths, Acids and Allied Bodies. This grouping describes the action of salts, acids, arsenic, phosphorus, etc.

Part IV.—Is devoted to the Heavy Metals.

Part V.—Describes Ferments, Secretions and Toxalbumins.

Part VI.—Is devoted to Menstrua and Mechanical Remedies.

Prof. Cushing is to be congratulated on the able manner in which he has compiled his treatise on Pharmacology.

A. J. H.

Hygiene and Public Health. By LOUIS PARKES, M.D., D.P.H. (London Univ.); Lecturer on Public Health at St. George's Hospital Medical School; and HENRY KENWOOD, M.B., D.P.H., F.C.S.; Assistant Professor of Public Health, Univ. Coll., etc. 12s. London: H. K. Lewis, 136 Gower Street, W.C. 1901.

Under the same title, and with Louis Parkes as author, the above work of which this is a recast has become very familiar to the medical fraternity, there having been five editions of the original work in the past ten years. The authors in the present work have brought the subject of Public Health up-to-date in a condensed and readable form, and the book, while of special use to those connected with Public Health administration, is yet a handy guide to the medical profession generally, and yet sufficiently free from unnecessary technical phraseology to be of use to those of the laity interested in public health.

The collection, removal and disposal of excretal and other refuse receives considerable space, and methods for the purification and utilization of sewage; the biological purification of sewage; intermittent downward filtration; irrigation; and subsidence, straining and filtration are outlined.

Details for chemical or bacteriological work in the laboratory are not included in the present work.

Soils and building sites, warming and lighting, air and ventilation, exercise and clothing, food beverages and condiments, disinfection and contagion, climate and meteorology are all treated in a scientific and yet popular manner.

Some seventy-seven pages are devoted to water supply and as many more to sanitary statistics.

E. H. A.

A Guide to Instruments and Appliances Required in Various Operations. By ATT. MAYO ROBSON, F.R.C.S., Senior Surgeon to the Leeds General Infirmary; Honorary Consulting Surgeon to the Keighley and Battley Hospitals; Emeritus Professor of Surgery in the Yorkshire College of Victoria University; Member in Council and Hunterian Professor, R.C.S. of Eng. Second edition. Two shillings and sixpence. Cassell & Company, Limited, London, Paris, New York and Melbourne. 1900.

On the first page is found the general requirements for an antiseptic operation, and following this the various operations, including those on the eye, are mentioned in alphabetical order and the necessary instruments and appliances mentioned under each.

The requirements of an operating room are given and a "reliable method of preparing catgut." This is a little book of fifty-five pages, exclusive of a good index. We think this would be a most convenient book for dressers, home surgeons, or nurses, and for the doctor who operates at the patient's home. By a quick reference one would be saved the mortification of finding he had left some essential instrument or appliance at home.

W. J. W.

A Manual of Medicine. Edited by W. A. ALLCHIN, M.D. (Lond.), F.R.C.P., F.R.S. (Edin.); Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital; Examiner in Medicine in University of London, etc. Vol. II.: General Diseases—Continued. New York: The Macmillan Company. London: Macmillan & Co., Limited. 1901.

This volume deals more particularly with diseases caused by parasites, diseases determined by poisons introduced into the body, primary perversions of general nutrition and diseases of the blood. There are contributions from a dozen well-known medical writers and specialists, and not a little new material which cannot usually be found in medical works of this size is introduced. The chapters on Diseases Caused by Parasites, and Diseases Determined by Poisons Introduced into the Body, as such are particularly interesting, as are also those on Uremia, Cholemia, Acetonemia and the Typhoid state.

This is the age of specialism, and the advantage of having the latest scientific knowledge in its various branches portrayed by those best capable of doing so is well shown in this little volume, while the editor, who has himself contributed very largely to special articles, deserves great credit for the excellent arrangement and selection of the subjects discussed.

E. H. A.

L'Alcool et L'Alcoolisme. Notions générales—Toxicologie et Physiologie, Pathologie, Therapeutique, Prophylaxie. By TRIBOULET ET MATHIEU. Vol. I., 8vo carre de 254 pages. Cartonné à l'Anglaise, 5 frs. Paris: G. Carré & C. Naud, éditeurs, 3 Rue Racine. 1900.

Physicians who read French will be pleased with this work, which has been just issued by Messrs. Carré & Naud, of Paris. The authors have written for the profession and not for the general public, and consequently have confined themselves to facts, which have been positively and scientifically established. The part of the work devoted to therapeutics is extremely interesting. We have abstracted the last-named portion of the therapeutics of alcohol, as given by the authors, and present it to our readers on the editorial page.

Richard Yea and Nay. By MAURICE HEWLETT, author of "The Forest Lovers," "Little Novels of Italy," etc. Toronto: The Copp, Clark Company, Limited. 1900.

Something of fact, something of fiction, and much of imagination fill the pages of this interesting story of the olden time "when Knights were bold and Barons held their sway." The tale that is told is entirely based upon the strangely contrary characteristics of the hero—Richard Yea and Nay—a man, whose component parts were half lion, half leopard. Thus the author introduces his subject: "Of him, therefore, torn by two natures, cast in two

moulds, sport of two fates; the hymned and reviled, the loved and loathed, spendthrift and a miser, king and a beggar, the bond and the free, god and man; of King Richard Yea and Nay, so made, so called, and by that unmade, I thus prepare my account." The life, the love story of Richard and beautiful Jehane, and the conclusion of it all, form by no means dreary reading. Perhaps, though, even better work remains to be done by Maurice Hewlett, of which he has given abundant proof in his "Little Novels of Italy."

Diseases of the Heart; Their Diagnosis and Treatment. By ALBERT ABRAMS, A.M., M.D., San Francisco, Consulting Physician for Diseases of the Chest, Mt. Zion Hospital and the French Hospital. Illustrated. Pages 172. Price \$1.00 net.

In this book the author discusses the subject of diseases of the heart from a practical aspect. His most noteworthy researches in methods of diagnosis are here recorded for the first time in collected form, and the latest and most practical methods of treatment given in detail.

J. J. C.

Anomalies of Refraction and of the Muscles of the Eye. By FLAVEL B. TIFFANY, A.M., M.D., Professor of Ophthalmology and Otology of the University Medical College of Kansas City, Mo. 4th edition. Kansas City: Hudson, Kimberly Company. 1900.

Among the many volumes which have in recent years appeared on this subject, Dr. Tiffany's work will hold its own. It is elementary in character, clearly written, and profusely illustrated.

J. M. M.

MAGAZINES RECEIVED.

A copy of the first issue of *The New York State Journal of Medicine*, published monthly by the New York State Medical Association, has been received. It supersedes the annual volume of the *Transactions*, formerly issued by the association. The Committee on Publication (Dr. James Hawley Burtenshaw, Chairman), deserve to be complimented on the attractive appearance of the *Journal*, and we wish them every success in their enterprise.

The International Monthly for February contains a carefully prepared and interesting account of "American Interests in the Orient," by Charles S. Conant. The opportunities for American commerce in the Far East are worthy of careful study.

The account of "Mountain Structure and Its Origin," by the eminent Scottish geologist, James Geikie, is concluded in this number. The essay gives the reader a vivid insight into the wonderful transformations this earth of ours has undergone. Most interesting essays are by Camille Mauclair, the French critic, on "Auguste Rodin and his Decorative Sculpture," and by William Archer, the great English literary and dramatic critic, on "The Real Ibsen." Mr. Archer is undoubtedly the greatest authority on Ibsen. Alfred Fouillée, the eminent French thinker and scholar, writes on "Nietzsche and Darwinism." Altogether this number is most attractive. Certainly for exhaustive, scholarly discussions of subjects of international importance, no magazine, English or American, surpasses *The International Monthly*. The publishers offer a sample copy free. Published at Burlington, Vt., at \$4.00 a year. Single numbers, 35 cents.

Scribner's Magazine for February begins a new series of reminiscences of theatrical life—a form of article in which it has been peculiarly fortunate in the past, having published the recollections of Lester Wallack and Mrs. John Drew. The Stage Reminiscences of Mrs. Gilbert, which are here begun, are full of vivacity, incident, and entertaining recollections of great actors of the past half

century. Mrs. Gilbert is eighty years of age, and has been on the stage for more than seventy years of that time, beginning as a dancer when a mere child at Drury Lane. This instalment first gives some recollections of her childhood and then the narrative moves to America where Mrs. Gilbert and her husband emigrated in 1849. Her recollections of her experiences in Chicago, Milwaukee, St. Louis, and other western cities are very amusing, and give a vivid idea of the old stock companies of half a century ago. It is remarkable that when Mrs. Gilbert first appeared in New York she came as a "western" actress from Cincinnati. These reminiscences, which will run through three numbers of the *Magazine*, are exact transcripts of the conversations with her friend, Mrs. Charlotte M. Martin, who has been a most sympathetic editor. The abundant illustrations have been selected from the wonderful collection of Evert Jansen Wendell, and also from Mrs. Gilbert's own souvenirs.

Thomas F. Millard, the war correspondent, sends from China a remarkable summary of the international conditions prevailing there at present, and a very shrewd analysis of the part played by the various armies and the representatives of their governments. Mr. Millard is the first man to make a proper allowance in his writing for the very biased statements of the "foreign resident" in China. He also fully reveals the campaign of revenge and plunder which has been promoted by the Germans, and shows how they have been making cruel expeditions against a people who have shown no resistance whatever. Mr. Millard also shows how fortunate are the United States in escaping from the whole difficulty, and how honorable their attitude has been.

PAMPHLETS, REPRINTS, ETC., RECEIVED.

La Cure Pratique de la Tuberculose: par le Dr. P. Piyade (d'Amelie-les-Bains), Précédée D'une Lettre-Preface, par E. Boirac, Docteur ès lettres; Recteur de l'Academie de Grenoble. Paris: Georges Carré & C. Naud, editeurs, 3 Rue Racine. 1900.

We have just received the annual announcement of the New York School of Clinical Medicine for 1901. The schedule of clinics suggests an abundance of material, and the facilities for teaching operative surgery on the cadaver in in general or special departments appear to be exceptionally good. The system of post-graduate teaching pursued by this school—personal instruction and limited classes—has advantages that are appreciated by those who desire to participate in practical work. The specialties are all represented.

LITERARY NOTE.

DR. SAMUEL FLOERSHEIM, of 218 East 46th Street, New York, writes us to say that he intends to publish a second paper on "The Use of the Suprarenal Capsule on Organic Heart Disease," and asks the readers of this journal to send him the reports of their cases as follows: 1. The condition of the heart pulse and pulse rate. 2. The effect on the heart, pulse and pulse rate, within ten minutes after the suprarenal powder, three grains, is chewed and swallowed, without water, by the patient.

It is announced that *The Stylus*, the well-known monthly medical journal edited by Dr. William Porter, of St. Louis, has been consolidated with the *Interstate Medical Journal*, of St. Louis, Mo. *The Stylus* will be consolidated with the *Interstate Medical Journal*, and the two publications continued under the latter name. Dr. William Porter, editor of *The Stylus*, will be associated with Drs. W. B. Outten, R. B. H. Gradwohl and O. F. Ball, in the editorial management of the *Interstate Medical Journal*.

The Canadian Journal of Medicine and Surgery

A JOURNAL PUBLISHED MONTHLY IN THE INTEREST OF
MEDICINE AND SURGERY

VOL. IX.

TORONTO, APRIL, 1901.

NO. 4.

Original Contributions.

SOME SUCCESSFUL CASES OF OPERATION AT THE SAMARITAN HOSPITAL, MONTREAL.

BY A. LAPTHORN SMITH, M.D., M.R.C.S.(ENG.),
Surgeon-in-Chief of the Hospital.

Case of Retroversion Cured by Ventrofixation.—Hospital number 466. Office number 1247. Miss L. G., 23 years of age; occupation, general servant; was sent to me on April 25th, 1899, by Dr. McPhail, complaining of pain in her back and trouble with her bowels and bladder. She began to menstruate at the age of twelve, and never had any trouble with it until five years ago, since which her periods have been coming on every three weeks and have been painful and scanty. For several days before her periods come on she has severe pains down the inside of her legs, and she wants to pass water all the time. Both when passing water and moving her bowels she feels as if something was blocking both passages. Retroversion was suspected, and on examination it was at once found to be present, together with prolapse of both ovaries. The uterus was easily replaced with the sound and a small pessary was introduced. She returned to me on May 10th, saying that her water was better but that she was worse in every other way. The pessary was removed and tampons were introduced while she was placed in the knee chest position, and repeated twice a week for several weeks. Although her next period was less painful, still she found it impossible to retain her situation, and as she had already lost several good ones from the same cause, she was anxious to have an operation, which I had told her was the surest and quickest way to be

cured. On considering which operation I should perform, I decided upon ventrofixation for the reason that I suspected the presence of some slight adhesions, because each time I put the uterus up it immediately dropped back again. I promised, however, that I would not remove her ovaries.

The operation was performed on June 6th, 1899. No adhesions were found; tubes were healthy, but the ovaries were large and hard, probably because their abnormal position underneath the retroverted uterus had interfered with their circulation.

The result in this case has been very satisfactory; the patient was up in three weeks, and left the hospital in four weeks, and soon after took a situation as housemaid, which she has kept ever since, working hard and quite free from pain, now sixteen months since the operation.

Remarks: This case is one of a great many similar ones, most of them being hard-working servant girls who have had to move heavy furniture. The first case admitted to the Samaritan Hospital was an exactly similar case—a young English housemaid, who was unable to work any longer owing to the pain. She was completely cured by ventrofixation, so that she returned to her situation and has remained in it ever since.

Case of Gonorrheal Pus Tubes Cured by Removal of both Tubes and one Ovary.—Hospital number, 455. Mrs. L., 28 years of age. Married ten years; one child nine years ago; never pregnant since. Suffered a good deal at periods, but was never laid up until present illness. Was called to see her at her home and found her in great suffering, with her knees drawn up, a high temperature and a fast pulse. On making a vaginal examination, a large mass could be felt on the left side and a smaller one on the right; uterus was in normal position, but there was a profuse yellow discharge. Diagnosis, gonorrhea extending up into the tubes. The husband admitted having contracted the disease on a recent commercial trip. I attended her for a week at her home, and then as the mass was getting larger and there was a risk of its rupturing as well as the possibility of its being a tubal pregnancy, I had her removed in the ambulance to a private room at the hospital. As there is less danger in removing pus tubes after the acute attack has subsided, I kept her under treatment three weeks longer before I felt that it was safe to operate.

Even then the operation was a serious one, for though the adhesions were easily separated, their extent was very great, the bowels and omentum being everywhere adherent. Fortunately the bowels had been well protected by sterilized towels, so that they were not soiled by the quantities of pus that poured out of the left tube as soon as it was detached. The right tube was too bad to leave, but as she was so young I decided to save the right ovary

which was carefully cleaned. She made such a rapid recovery that I was almost sorry to have waited so long before operating. The temperature, which had not been lower than 101 for four weeks, dropped to normal next day and remained there, and she went home in good condition four weeks after her operation. Apart from two attacks of severe pain due to constipation shortly after reaching home, she has been in splendid health ever since, and now menstruates regularly and painlessly, and she weighs 147 pounds, the most she has ever weighed.

Remarks: These are anxious cases. As a rule they are very ill for a few days after their operation, owing to the large area denuded of peritoneum, and the inevitable oozing that follows it. But the death-rate is comparatively small, about five per cent., and the ninety-five per cent. which recover from the operation make a brilliant recovery of their health, generally becoming so stout and rosy-cheeked that one can hardly recognize them. When I hear some physicians say that they do not believe in operations I always think of these cases; of women who lead a life of invalidism, with constant mild sepsis or pus absorption; and of those whom I have seen die from bursting of the pus-sacs into the rectum, bladder, vagina, and through the abdomen, and which patients these same doctors certify as having died from consumption of the bowels or decline. If these same physicians were to spend a month at the Montreal Dispensary and at the Samaritan Hospital, they would see enough to convince them how greatly they have misled or are ready to mislead their patients who have pus tubes.

Case of Second Laparotomy for Removal of Right Tube and Ovary and Vermiform Appendix, three years after Removal of Left Tube and Ovary.—Hospital number, 448. Mrs. T., 35 years of age, was sent in on the 15th of August, 1898, by Dr. Robert Wilson, on account of intense pain in her right side. She had had her left tube and ovary removed three years before at a large hospital, but at that time did not complain very much of the right side, so that the gentleman who operated, who is one of our most careful and conscientious surgeons, acted no doubt as he thought for the best in leaving the right ovary and tube. But about a year after her first operation she began to suffer just as much from her right side. As the pain was constant, she was unable to do any work for the next two years, while at her periods the pain she described as excruciating. Dr. Wilson had great difficulty in persuading her to submit to a second operation, but she finally consented. In this case, as I have invariably found it, the secondary operation was very difficult, the right ovary and tube being deeply buried in dense adhesions. While breaking these up, the vermiform appendix was found buried in them, and was consequently removed. She declared the very next day that her pain was gone, and she

made a rapid recovery. She has been seen frequently since, and declares that she is in perfect health.

Remarks: This case touches on a very sore point with me, for on several occasions I have allowed patients to tie my hands, so that I was not left free to do what was best for them, and the result has been bitter disappointment for both of us. One of them has even reproached me for not having broken the promise which she exacted from me. In several other cases I was left free to do what I thought best, and deliberately left an ovary which should have come out with its fellow. Some seven or eight years ago I removed a large pus tube and ovary and vermiform appendix from Mrs. E. in a private ward at the Western Hospital. Although I had *carte blanche* to do what was necessary, I was anxious to conserve the ovary, so after cleaning it well I left it in. She made a very anxious recovery owing to the extent of the adhesions which had been broken up, but she was well enough to go home on the 28th day. She had only been home a few days when she sent for me in great haste, and I found her suffering intense pain in the other side, where I had left the ovary. On examination the latter organ was found to be as large as an orange, fluctuating and very painful. The high temperature showed that there was pus present, so I brought her back to the hospital and performed a second laparotomy, which proved almost as difficult as the first one, so that I heartily wished that I had not been so conservative. The bowels were torn in many places, requiring much stitching, and in other places they were denuded of peritoneum, so that I had to touch the bleeding surfaces with the actual cautery to arrest the hemorrhage.

A more important reason why I am opposed to these so-called conservative operations is that women frequently consult me for a disease which I could surely cure by a safe operation, but which she will not consent to submit to because several of her friends have had an operation performed which not only did not cure them, but actually made them worse. On close inquiry I have invariably found that the cause of the failure was this mistaken policy of only doing the half of what was necessary. Only one ovary was removed when both were diseased, as in the case reported above; or a small laceration of the cervix which was causing very little trouble was repaired without anything having been done for the two pus tubes and ovarian abscesses and appendicitis coexisting. So that I have come to the conclusion that so-called conservative operations are neither conservative of the woman's health nor of the good name of gynecology.

Enormous Hypertrophy of the Cervix Uteri Simulating Hermaproditism: Amputation and Ventrofixation.—Hospital number 531. Miss M. D. consulted me at the Montreal Dispensary for

procidencia uteri. She was a virgin twenty years of age, and employed as a domestic servant. I found an organ like a penis four inches long protruding from between the labia. It could be pulled out to five inches and the sound entered six and a half inches forwards. As it caused her a great deal of inconvenience, and in case of her marriage might lead to misunderstanding, I sent her in to the Samaritan Hospital to have it removed. This was easily done by detaching the vagina all round and then splitting up the cervix a distance of four inches, and amputating the flaps. The uterine arteries were not met with, or if met with were pushed aside, as they were not seen; there was very little bleeding, which was easily controlled by a catgut ligature. The vagina was then attached to the cervical canal. The patient was then placed on the laparotomy table and ventrofixation done through a very small incision. She made a good recovery, and has been working as a housemaid ever since.

Case of Multiple Fibroid Tumors of the Uterus.—Hospital number 554. Mrs. L., 42 years of age, sent to me on the 13th of March by Drs. Jeannotte and Hopkins. She had been bleeding profusely for several years, and the mass of tumors had increased in size until she was as large as a woman six or seven months pregnant. The pressure symptoms had become very severe, and her general health had suffered so much that she had become very thin and cachectic in appearance. An element of doubt had been thrown into the case by her periods having stopped for two months for the first time since they had first begun, and she had brown nipples and was sick at her stomach more than usual. There was no difficulty about diagnosing the fibroids, for the nodular masses could be felt and seen projecting up under the abdominal wall. But it was more difficult to ascertain whether there was anything in the uterus or not. Another point of interest was whether the tumor had already begun to undergo malignant degeneration, as is well known fibroids frequently do. In either case my mind was made up as to the proper course to pursue; that the sooner the uterus was removed, pregnant or not pregnant, malignant or not malignant, the better it would be for the patient. So I sent her into a private room in the Samaritan Hospital, and two days later I removed the ovaries and tubes and all the uterus except the cervix. All the arteries and the two round ligaments were found and tied in turn before being cut, so that there was no bleeding except what came from the separated tumor. The stump was carefully closed with catgut, and then the two layers of peritoneum forming the broad ligament were closed with a running suture of fine catgut. There was no shock and she made a splendid recovery. Her digestion improved almost from the first day, her color is rapidly getting better, and apart from this she looks and feels in the best of health.

A subsequent examination showed that the uterus was neither pregnant nor malignant. This case is interesting because it was one of a group of thirteen consecutive hysterotomies for fibroid, all of whom recovered, seven having been done in 1899, and six so far in 1900. My experience with operating for fibroid tumors has been so satisfactory since I have adopted the method of Pryor and Kelly that I consider hysterectomy as safe an operation as ovariectomy. I have come to the conclusion that all fibroid tumors should be removed as soon as discovered, that is to say, as soon as they cause symptoms. It must be remembered that hemorrhage is not the only symptom, for the disturbance of the digestive and nervous systems are sometimes far more marked and more important than the menorrhagia. If the case above reported had been pregnant, the immediate removal of the uterus, pregnancy and all, would have been the best thing to do, for either a provoked abortion or a Cæsarean section would have been more dangerous operations than the hysterectomy which was done. Those who advocate a policy of delay or noninterference should always remember that a considerable proportion of fibroids undergo malignant degeneration, a change which I have seen taking place several times in my own limited experience.

Case of Obstruction of the Bowels Reopened nine days after Abdominal Section for Diseased Tubes: Recovery.—Hospital number 653. Mrs. M. Dr. Letellier called me to this case two years ago for retroversion of the uterus. She had very tender tubes and ovaries, so much so that Dr. Letellier was unable to get the uterus up without an anesthetic, and had to have assistance. With the aid of an anesthetic I was able to put the uterus up and introduce a pessary. After this I saw her no more, but Dr. Letellier told me she was keeping well. About a year and a half later Dr. Letellier called me again for the same trouble, but this time I was unable to replace the uterus. He told me that the uterus had remained up without the pessary for the last six months, but a week or two before she had sent for him for a sharp attack of pelvic pain, and on examination he had found the uterus retroverted. I felt sure that something had happened since I had last examined her, some disease of the tubes which had set up a pelvic peritonitis which had glued the fundus to the hollow of the sacrum. I therefore strongly advised ventrofixation, with removal of the tubes if necessary, to which the patient readily consented. As all parties interested except myself were anxious that the operation should be performed at her house, I agreed to do so, although I regretted it afterwards, because the operation was done under considerable difficulties, and the patient was not under such perfect control. The tubes, though small, were so firmly bound down by apparently old adhesions that

I had the greatest possible difficulty in getting my fingers behind the uterus to detach it, and even then it was difficult to bring it up to the abdominal wall, in order to fasten it there. For the first few days everything was going on so well that I left her in the hands of her family doctor, who kept me informed of her progress. His reports were favorable until the ninth day, when he asked me to see her, as she was vomiting everything. A day or two before she had been having some pains, which required increasing doses of morphine to control, and her pulse began to get faster and faster. I spent two days in trying various methods of getting the bowels moved, but without success. On the contrary, the patient was so much worse that I insisted upon taking her to a private room at the Samaritan Hospital against the advice of another physician who had been called in. As we are always prepared for an emergency laparotomy there, it only required a few minutes to get her on the table. With due precautions, and assisted by Dr. Letellier, the incision was reopened. The small intestine was slate-colored and enormously distended, and bound down by many small adhesions, in detaching some of which the intestine tore very easily. The real cause of the obstruction was found in a coil of small intestine glued into Douglas' cul-de-sac, from lifting it out of which it tore again, although no force was used. Her pulse by this time was uncountable, but I had the satisfaction of seeing the contents of the distended bowel flowing into the collapsed portion. The abdomen was filled with salt solution at 105 degrees, and the anesthetist having warned me that I must close up at once, I only had time to put three silk-worm gut through-and-through stitches. She did not vomit any more but had four or five large stools that evening, and next day she was practically convalescent again. Strange as it may seem, she went home in four weeks from her first operation as well as any patient who had no such stormy recovery. I had a similar case at the Western Hospital some years ago, which also recovered, so that it will be seen that the prospects are good if we do not wait too long before reopening. The diagnostic features are the pain, distension, constipation, vomiting, normal or subnormal temperature, with the rapidly increasing pulse.

248 Bishop Street, Montreal.

EXPERIMENTS IN CLIMATOLOGY—THE TROPICAL WINTER.

BY EZRA HURLBURT STAFFORD, M.B., TORONTO.

THE doctrines of therapeutics are based upon the changes, more or less marked, which may be produced in the physiological economy of an individual by any agency over which the physician has control. To the somewhat ludicrous history of this subject from the days of the Empirics down to the present time, no detailed reference need be made here. The use of spells and of pharmaceutical preparations may be traced back almost to the days of the Early Quaternary Man; and while spells were at an early period abandoned, the very word therapeutics became at length associated with the idea of drugs of some sort. There are other therapeutic agencies beside drugs and spells, however, and one of the most important of these is climate. Heberden touched upon the subject more than a century ago, and while change of climate has been advised for various classes of invalids for many years past, the practice is still somewhat empirical, as usually resorted to, and will continue to be so until the physiological action of the climate *in itself* in a particular locality, and also the effect which follows *the change of one climate for another* in various given morbid conditions has received careful scientific study. A dry, cold climate, at a certain altitude, may produce a physiological action upon a person accustomed to a warm and humid atmosphere quite as easy to distinguish and to trace as a dose of digitalis.

North America and its islands affords every variety of climate that the physician could possibly need for therapeutical purposes, and the American physician has no real occasion to send his patient either over-sea or south of the equator. With a territory thus circumscribed, the practitioner may begin to map out the climate of the various regions for future convenience; and as a wide personal knowledge of so vast an area can scarcely be expected to come within the experience of any one man, for few have wandered as far as the King of Ithaca or, like Moses (the father of Cook's tourists) and the travellers who accompanied him upon that "personally conducted" tour, have spent forty years on the road; the physician who wishes to add climate to his working pharmacopeia will be forced in many cases to depend largely upon the reports of others who have observed the climatic phenomena of more remote regions. To this need the present paper is a conscientious contribution.

The facts required, while they are not very numerous, must be correctly and accurately supplied; temperature, and changes of temperature (whether sudden or gradual), altitude, humidity, dryness, barometric pressure, quality of the air and what is contained in it (dust, smoke, germs, and irritating gases), the quality of the ground and its exhalations, the amount and the intensity of the sunlight, together, when all else has been said, with the moral effect of the surroundings, including the domestic accommodations and amusements. In this connection it may be asked, regarding the moral effect of many popular sanatoria, if it is well to send a neurotic person to a place where he will come in contact with others of his own class. Hypochondriacs rekindle and add to each other's flame. Invalids, considered in any light, are not absorbingly interesting. Indeed, when they are poor and friendless they are not to be endured. When they are wealthy, the amazing stupidity of their physiological predicament is treated with padded consideration, and the law of the Survival of the Fittest so far violated that the process of decadence is fostered as long as the constitution (and funds) of the patient can stand the strain.

The tendency to at once accept as a fact, without further investigation, any statement which is made with a certain degree of positiveness, and to afterwards vehemently defend opinions formed in this extraneous manner, has long been observed as one of the mental peculiarities of the human race; and it is owing to this psychological law that the names of certain regions, both in America and Europe, act almost as Talismans upon the minds of the uninformed. An extensive library could be formed of illustrated pamphlets, magazine sketches and books devoted to the charms of rival resorts, supposed in each particular case to be unusually favored by nature. But these sources of gratuitous information are not authentic, and emanate invariably from an interested source with an object altogether mercenary. There are hotels and there are sanatoria which have been built at a great cost for the purpose of making money. And in each case, too, there are railroads or steamship lines by which one may go thither, and dealers in real estate when one gets there.

Of Florida, of Colorado, of California, and of many other places this may be said; and it is by the individuals who have embarked upon this form of speculation that this exotic literature, thrust so persistently before the notice of the deluded public, has been inspired. The physician must not also be deluded by venial misrepresentation of the sort; and though climatology is at present merely a matter of gossip and advertisement, the intelligent manipulation of climatic conditions by rational medicine will eventually be studied as earnestly as the action of new drugs is now.

A number of cases are personally known to the writer where a native of the tropics was much benefited by a sojourn in the North during the winter months. In these cases the patient, far from being distressed in any way during the first season by the unwonted cold, experienced rather an unusual and altogether pleasing mental and physical stimulation. A second or a third winter spent concurrently in the North, however, was seldom attended with results so favorable, and the patient then found himself extremely sensitive to the cold and the sudden changes of temperature.

Natives of the North, who by long residence in tropical countries have become acclimated, are affected in much the same way by a return to northern countries; and in the case of the latter a return to the North for one season every four or five years has been found beneficial and even necessary, and is generally recognized by governments with those holding civil appointments in hot countries.

The native of the North does not, on the other hand, find in the tropical winter a similar stimulation; but is usually advised to go thither that he may escape the rigors of the northern winter, to which he looks forward with unspeakable dread by reason of increasing years or the enfeeblement of pulmonary or nervous disease. But a second or a third winter spent concurrently in the tropics confirms rather than dissipates the undoubted benefits derived from such a change of residence; and as the mortuary statistics in the North unmistakably indicate that the rate of mortality of such patients is greater during the winter months than during the rest of the year, it has become customary, when circumstances will allow, to suggest such a change (from a purely northern standpoint) on account rather of what may be avoided by it than what may be gained. From the tropical standpoint, however, many additional reasons may be brought forward in favor of a residence in the tropics.

Jamaica, in the West Indies, possesses all the conditions of a tropical climate, and is furthermore recommended as a winter residence on account of the stability of the government and the conveniences of modern civilization, which are absent in Cuba or South and Central America. Its lofty mountain ranges supply all the wide variations of temperature and humidity which may be indicated in the case of special patients. In this particular Jamaica takes precedence to the low-lying, coral-formed Bermudas, to Florida, the Bahamas, and Louisiana; while the remoteness of California, even if it possessed similar advantages, renders it impracticable for residents of the East on account of the exertion, time and expense of the almost interminable journey.

Lying south in the Caribbean Sea the temperature in Jamaica

has never sunk to the freezing point. Frost and snow are unknown. On the other hand the temperature never rises in the island as high as it does annually in Chicago and New York in the hot months. The Tropics should not suggest, as they popularly do, the idea of intense heat, but only of continuous summer, and the absence of cold. Sunstroke does not occur in Jamaica, and during the heat of the day the thermometer usually registers only ninety degrees. Upon the mountains one is not inconvenienced by the heat at all; while, even in the low lands where it is hottest, the solar warmth is tempered by the land breeze and the sea breeze, which perpetually oscillate to and from the shore, a phenomenon gratefully mentioned in the early Spanish chronicles. At night there is a fall of temperature. Radiation, owing to the luxurious vegetation, which is unsurpassed throughout the island, and thickly clothes even the barest rocks, is slow. Hence the changes of temperature, while they are slight, are also gradual.

The humidity is marked upon the north coast of the island, where the air is almost always very heavily charged with moisture, and light rains fall very frequently. This dampness does not, however, contraindicate the residence of those susceptible to rheumatism, or persons suffering from pulmonary or bronchial affections. The air, though moist, is soft and balmy, and quite free from irritating particles, or impurities of any kind. The south coast of Jamaica, on the other hand, is dry almost to aridity.

These conditions of temperature and humidity indicate that soft wool should be worn next the skin, a practice which is universal in the island. Otherwise the clothing should be of muslin or drill as the case may be. A silk or felt hat proves burdensome, and even the straw hats manufactured in the North are as unsatisfactory here as they are in the North. The best hat for the tropics will be a very light helmet or one of soft, light felt or woven Panama straw, high in the crown. Sunshades, though not indispensable, are often carried also. Active physical effort at the coast altitude is inadvisable, though in the mountains no precautions in this direction need be taken.

The water supply all over the island is exceptionally good, and is derived largely from springs and mountain streams. The zymotic diseases rarely make their appearance. Mosquitoes are very numerous in a few localities during certain seasons of the year, and as the part played by this insect in the spread of malarial and yellow fever has recently been brought rather prominently before the notice of the scientific public, nothing need be said here of the matter. Yellow fever is of singularly rare occurrence in Jamaica, but in some portions of the island malaria is often present. The prophylaxis is obvious. Indeed, in most sleeping apartments a mosquito netting is provided. In the mountains there are very few mosquitoes, and this device is unnecessary.

Of no grave significance, but causing much annoyance sometimes, may be mentioned the other insects of the tropics. Care should be taken to avoid a small parasite known locally as "the tick," which infests the grass, but displays a marked willingness to change its habitat for the skin of the human subject, under which it burrows and multiplies, unless its domestic operations are promptly stopped by the use of antiseptics. The "prickly heat," also, which appears in reddened blotches upon the skin, due to the presence of the *lichen tropicus*, is readily removed by a weak carbolic solution. Jamaica is exceptionally free from vermin and pests. The centipede, the tarantula, and the scorpion are not at all numerous, and the boa-constrictors and other serpents of the Spanish Main adjacent have never been found in the island.

Tuberculosis is present, though not frequent, in Jamaica, and makes its appearance there, as in the North, among the debilitated. In nearly all cases it is found possible to keep it in check by a removal of the patient during the early stages to the mountainous districts, where the present writer met with a number of cases whose lives had been prolonged for five, ten, and even twenty years. As a resort for consumptives, the mountains of Jamaica are incomparable.

Leprosy is also present as in many other of the West Indian Islands, but I was not a little interested to learn after a visit to the leper settlement at Spanish Town, in company with Dr. W. D. Neish, the medical superintendent, that the disease has been practically shown to be non-contagious. The voluntary inoculations on record would seem to disprove the notions upon the subject formerly held; and the experience of the accomplished specialist, with whom I had the privilege of discussing the question, led to the conclusion that this disease of ancient fame has all these centuries been purely a matter of hereditary susceptibility; a fact which, while modifying the reasons for the present enforced isolation, does not in any way lessen the necessity for it in the future.

Earthquakes, though not infrequent, are not at all violent in their occurrence. Those terrible cataclysms of nature recorded in history made their appearance only once in centuries. The occasional manifestation of seismic phenomena need not, therefore, bar the island as a resort for the timid and the neurasthenic any more than the evidences of an Ice Age in Ohio should cause an exodus from that State of all persons affected with weak chests.

The dietary of Jamaica is characteristic of the tropics, but the cuisine *a la Creole*, instead of presenting any difficulties in the case of dyspeptics, is rather to be indicated for such patients, owing to its simplicity. Tropical fruits and vegetables are largely used in the native cookery, together with fish, fowl, and shell fish.

Butter and grease occupy a very small part of the daily menu: sweets and spiced confitures being substituted in their place. The products of the guava fruit, the ginger root, the mango, the lime and the tamarind, adequately supply the place of butter and the richer animal sauces. The water of the green cocoanut is found to be very refreshing and also nutritious. The citrous fruits, particularly the orange, the pomelo and shaddock, together with the plantain, the banana, the yam, the breadfruit, and the root of the sweet cassava, form a chief part of the diet, and, while furnishing a large supply of aliment, are piquant in the extreme and very easy to digest.

In this connection the use of alcoholics is to be avoided. The northern visitor, whose appetite is in a normal condition, develops an inexplicable repugnance very shortly after his arrival for the very beverages which, in moderation, seemed indispensable in the North. Unfortunately many who visit the island are not in a normal physical condition, and feel a morbid craving for alcoholic stimulants, which, if gratified, leads in that climate, to results ruinous to the health and even the life of the individual. The island furthermore produces within its shores one of the most seductive of alcoholic drinks, a beverage which, whether taken "neat," when it resembles some of the more exquisite liqueurs imported from France and Spain, or in the form of rum punch, produces a false elation while it surely undermines the resisting powers of the constitution, so that the misguided subject of indulgence readily falls a prey to intercurrent disease. In the literature of epitaphs, in which Jamaica is especially rich, boasting of cathedrals more than three centuries old, and still dingily emblazoned with armorial bearings, and the virtues of British heroes, this little personal drama of cause and effect has been for three centuries referred to invariably as "the fell West Indian fever." In the enlightenment of science as well as justice to the fever, it may be gently and sympathetically hinted here that a great deal of the historic fell West Indian fever of the past was coincident with from five to ten bottles of rum-bullion per diem. Indeed, I heard only the other day of a case of a young gentleman from over in Barbados who actually drank himself to death upon a daily indulgence with which he had never been incommoded when in England. While a reasonable temperance is to be advised, therefore, in the North, countless object lessons of this sort imperatively point out that entire abstinence is necessary in the tropics.

In speaking of Jamaica as a winter resort, it must not be forgotten that it offers equal inducements to the resident of such cities as Chicago and New York during the hot months as a summer resort also, for in the higher altitudes of the mountains it is comparatively cool all the year around. Not the least important

factor to be taken into consideration in enumerating the conditions which render Jamaica at any season an acceptable refuge for the invalid is the complete contrast which it presents to the social conventions of the North. The moral effect of novelty, and the efficacy of an entire change of domestic arrangements, though incapable of accurate representation, has been found to be exceedingly great, and exerts a strong influence in furthering the recovery of the convalescent and the debilitated.

A life that has gradually fallen into one monotonous groove of habit, unbroken from year to year, is inimical to the health and development of the person; and the ill effects of an existence which is sterile in all that makes the experience of life worth living, soon manifests itself in lowered resistance and increasing nervous irritability. This is inevitable with the hideous machine of modern commercialism. When a community lives according to a schedule, with habits formed upon a rectilinear diagram, and in cities built upon the architectural plan of a piece of furniture, a stage of mental and physical decadence is soon reached when the wise micro-organisms instinctively swarm up from the ground and produce one of those *epidemics of decay* which are impossible and never occur in a virile population. They are not as quick, however, these fatuous victims of the absurdities of modern civilization, to hear the warning alarum of Ruin, as was Dr. Faustus, who long ago sold his soul at a much better bargain.

Variety is essential to perfect health. A life in Jamaica presents every moment some additional variety to the resident of the North. Not only the perfumed air, the tempered warmth of the sun, the pure water and the simple food join together to produce the general salubrity; but also the Acadian scenery which delights the dullest eye, the music and the color of the native life, which calls back the gay heart's content of an Idyllium of Theocritus, the blue Caribbean, ever shining and shimmering in the sun, the intoxicating odors of the coffee blossoms or the orange flowers from the hill, the rich scent of the night-blooming Jasmine, wafted softly in through the jalousies as one falls asleep in the starlight; all these, and a thousand other snatches of sound and glimpses of color wrap the soul in a foil of Elysian solace and crown the weary, world-sick spirit with a wreath of rest. But these less tangible considerations are, in the words of the theologians, "a matter of experience," and possibly a part of the end which this paper has in view may be gained by giving my own.

Jamaica is undoubtedly the most beautiful spot in America; though Costa Rica (actively engaged in making military history) has its votaries, and Haiti (with the same sort of a history well made) its warm admirers. The awe felt by Columbus when all

day long he looked out over the waves towards those embattled mountain peaks towering grandly above the summer sea, each in turn must feel when first his eyes are greeted by that magnificent spectacle. And it was from this sight at early morn, when the downy clouds in masses of pink and white still lay softly piled upon the purpled Caribbean that I was called by that intolerable pest (the steward's assistant) to partake of strong coffee and something fried! A man should observe some degree of temperance, even in doing his duty. But this misguided individual had been, to my own knowledge, more than once guilty of awful excesses—of duty. A conscientious person, however humble, endeavors in a quiet way, to avoid this sort of thing.

Very soon the cocoanut palms could be seen along the shores beneath Chateau Vert, and the ship came slowly gliding among the wave-lashed coral reefs into Port Antonio, the chief harbor on the north coast, and the refuge in the past of more than one filibuster. Having satisfied the Customs officer of my integrity (a feat which I have always found exceedingly difficult at Quebec and Niagara), I gratefully landed and proceeded to explore the city, not so much in the scientific spirit as with that bewilderment which an unsophisticated person feels upon witnessing a very spectacular ballet. Indeed, the scenery, the architecture, and the inhabitants possessed that charming air of unreality which one meets in the canvas scenes of the drama. Fallen mansions of heavy stone masonry, green with the moss of age, roofless and overgrown with vegetation, called back the opulence and glory of a century that is passed. Such spots of municipal gangrene were extraordinarily numerous. In the more animated portions of the city the streets were very narrow and winding. Swarthy men and women stood in groups in the middle of the thoroughfare, brilliantly clad in pink, blue, purple, green, and orange. The men carried gleaming *machetes* in their hands, and the women bore calabashes of water or baskets of fruit upon their heads in the Oriental fashion. Some music, many cries, and much barbaric laughter rendered the lazy air vocal, while, in spite of a certain amount of traffieking, there was a general suggestion of infinite leisure. The ear was rested and the eye was soothed.

Under a spell I threaded the narrow ways, taking occasional glimpses into the little shops, strongly reminiscent of a Byzantine bazaar. The warm land breeze, so soft, so aromatic, was perfumed with the spicery of the Indies. An orange fell at my feet from the branches of a tree in whose amber shade I hesitated for a moment to wipe my brow. From a plantain thicket I heard a girl softly singing. As I stood on the old stone arched bridge overlooking a crystal stream, whose limpid waters must have surely gushed from the Fount of Baudusia, an old-time carriage

with a postilion passed in all the pomp of summer dust, and it seemed as if I might be back in the days of Belinda. Then a wild-faced individual in white turban and loin-cloth hailed me, O Sahib! and I remembered that since the days of slavery many thousands of coolies had been imported from Hindostan to perform a similar function. Soon I was beyond the city landmarks, with the rugged mountains on one side and the Caribbean on the other. Nestling among the thick bay trees, little wicker-work cottages, resembling large baskets, and hastily thatched with palm leaves, indicated the humble habitations of the natives. No grinding sound of labor and commerce grated discordant upon the ear, no vulgar advertisements of the necessities of the kitchen met the disgusted eye. The goats, followed by their little kids, clambered among the rocks. The fishers in the bay shouted blithely to one another, as the fishers do in Sannazarius, but very seldom off the Cape Cod coast. And here, reaching back from a clump of delicate bamboo, was certainly the Vale of Tempe, fanned by zephyrs. I soon was made aware of the grief of Syrinx, too, but it is somewhat apart from the purpose of this paper to describe the directness of a Jamaica courtship.

Unfortunately a mile-post beneath the ponchionas reminded me of distance, though I had quite forgotten time. In this rich draught of first impressions my exhilaration was not unlike that of a young miss at her first ball, who wishes wistfully that the incomparable function might go on forever. My acquaintance with these new bucolic friends grew apace, and in the case of the nymphs was, I may say, especially gratifying. Some of these, like the Queen of Sheba, were dark yet comely, and were as outspoken of their deeper emotions as was the distinguished lady mentioned. To a man like myself, who has always been admired rather for his lofty moral qualities—and attainments, than for his comeliness (and I do not say that I have in the past felt that this neglect was altogether just), it is refreshing to me to be naively designated as a very handsome gentleman. Those were her very words. I am of the firm conviction that these simple people of the South display excellent judgment in matters of this kind.

Often on my way the tinkle of a little bell would startle me as the donkeys with their panniers were driven by, sometimes with a sleeping infant in one of the baskets. The hotel at Port Antonio is situated upon a high hill, with the blue waters upon every side, the grey fort beneath, and the light-house on the neighboring promontory that looks away to the faintly-seen mountain line of Cuba, hovering like a pallid ghost of Atlantis over the mystic sea. Entrenched by the flaming foliage, crimson, orange, and purple of the croton bushes, and sheltered by the dark, solemn shade of the mighty mango, this building of the tropics looks down upon the

quaint town beneath. The dining-room where I took luncheon opened by forty doors upon the broad piazzas without, and the table, which shone with the brilliant hues of tropical comestibles, was dressed with fresh-cut ginger lilies and Damascus roses, whose petals, to the dignified consternation of my ebon cup-bearer, fell into my *café noir*. And there were no flies, somehow, which seems very strange to me, for I should think that it was a place where flies would like to go. Surely it cannot be that the flies in Jamaica are more sensitive in the matter of going where they are not wanted than they are in America.

This famous hotel is regarded by the simple shepherds with whom I had been lately walking as Olympus, and with the Buck-ras of the dominant race my knowledge next began to grow. Can I ever forget those pleasant faces? Never, I am sure, though out of decorum I shall try here, at least to forget their names. First there was my friend, W. C. Davis, the *deus ex machina*, who used, in a far-off, pre-tropical existence, to live in a booming town out in Iowa, not far from my own American home in Nebraska. Would now that I could sit, while the light waned from gold to purple, and smoke with him the black Machada or the Quesada, redolent of dreams. Would that I could swim with him in that enchanted spot, consecrated to the white-bosomed Naiades, where the water shines like a beryl within the moaning reefs—and Pedro, the faithful, to row us home! Would that I could now “boot, saddle, to horse, and away!” Away, up the steep mountain paths, with the towering mountain walls of rock on one side, grating the awkwardly-bent elbow, and the abyss of a thousand feet yawning beneath the horse’s lifted heels on the other side. The misty passes in the blueness of the shining distance, the sea gleaming like burnished steel and the scream of the brown vultures overhead! I will not evade the confession made then, that I would have enjoyed those rides very much more if I had not been so “anxious;” but I still think that my companion had no conscience, artificer of terror that he was, when he instigated my charger, by some dark means known only to himself, to gallop. Then, yes *then*, could I feel the chill breath of black Carø who sits behind the horseman. However, he knew the horse, and I have lived to repeat—the accusation.

And there was the judge, fixed of habit, who, like all Englishmen, approached his dinner solemnly, and would have been interrupted as soon, when so employed, as would the priest whose hand runs blood at the sacred sacrificial altar of his god. And the brilliant young barrister, too, with whom I talked a deep philosophy. And the stern chief of the Constabulary, I remember, terrible to the evil-doer, but gentle and benign to such as me; the beautiful young bride and her husband, the physician, with whom

I shared hot Scotch and the latest additions to the germ theory; the supercargoes, also, dead shots all with the cue; the manager of the Grand Company, long ago a sea captain and now a magnate, of many benefactions; and, far from last in remembrance, the American millionaire (in coppers) who thought as little of chartering a steamship as of ordering a cup of coffee—opulent friend, I know not which sparkled the brighter, thy champagne or thy irresistible stories; yet would I rather, much rather, have known thee on Titchfield Hill than on Wall Street.

The best railway in the West Indies traverses the Island of Jamaica, and under governmental management, is proving efficient in every way. The journey by rail to Kingston, the new capital, is through scenery of singular beauty, and follows the valley of the Rio Cobre. Kingston is not a particularly interesting place, and from Rum Alley to Tulip Lane possesses a reputation for heat and almost lethal odors. There are a couple of Government Hotels here (run by the Jamaica Government as prisons and asylums are run by other governments, and attended, in the running, by a similar amount of public criticism and complaint) where one can feel that security, when he eats his breakfast, which one ought to feel when under the protection of the government. The Queen's is less magnificent in its pretensions than the Myrtle Bank Hotel, which is built in the Spanish form of architecture, with a great inner court, and a garden in the rear, which slopes down to the sea, beneath whose waves lie deep the sunken streets of old Port Royal and the golden ingots of the Buccaneers.

Weary soon of this colonial port of call, I eagerly sought the mountains, going first to Mandeville. It is cool here all the year round. The May Day Mountains lie away to the east, the Don Figuerero hills stretch northwards, and the Mocha range southward. The Brooks Hotel will be found a most comfortable retreat, and here one may increase his knowledge of West Indian politics and hear beforehand those impassioned letters of Louis Lindo, which, at crucial historical moments, appear in the public prints. Near Mandeville, too, an astronomer has already set up his telescope. The local Quality abounds here, and one is vaguely reminded sometimes of an almost forgotten world where a class of human beings display a propensity to be fashionable. Perhaps it was only a passing fancy, though I am hardly sure; for my own part I spent my time in solitary rambles, or drives, and loved rather to stand on the brown barbecues and look away to the hills beyond the coffee plantations and orange groves, growing dark beneath the violet skies of evening.

Later I went on to the Santa Cruz mountains, where there is also excellent accommodation for the traveller. Here the air is even finer than at Mandeville; and no one who has enjoyed the privilege will forget a ride with Ambrose Lawrence along the steep

mountain paths, or the coffee, enriched with goat's milk (the only way to drink it), of the matchless view from his barbecue on the lofty brow of Torrington Hill, where, half a mile sheer beneath one's feet is seen the Caribbean, stretching southward, and the ships, like slow black flies, lying upon its still surface, and far, far away, Negril Point, beyond the white porticos of Savanna la Mar. The summits of the Santa Cruz mountains are thickly wooded with pimento and logwood, and I am indebted to my kind host, Mr. Charles Isaacs (whose then impending election to the Executive Council was, I hope, successful) for more than one pleasant drive about this little kingdom of the sky.

Subsequently I made a journey to Mount Diablo, which stands sentinel over Saint Thomas ye Vale. Here at the Moneague Hotel I had another experience of mountain scenery. There are immense caves and sink holes in this region, in which even rivers are engulfed, to appear again miles away. And here it was that I met Steve Chalmers, a colleague in indentures to the thankless Muse. Dear Busha of Mount Diablo, forget not the simple song of thy musky vale—

"I 'tan upon de hill top and looka de moon."

It was here, also, that I took the forty-mile drive down the sombre Fern Gulley to Ocho Rios; on to Seville, the Golden, the site of the ancient Spanish city which was destroyed, mayhap, by French corsairs, though evermore "History leaves a vacant page," and homeward in the night, when the giant ceibas loomed black in the light of the moon.

These three are the chief mountain resorts in Jamaica. There are many towns upon the shore, but the accommodations for strangers are so abominable that the writer hesitates to assume the responsibility of recommending a sojourn in any of them; though, in spite of these disadvantages, he enjoyed exceedingly his stay at Montego Bay. The sea bathing here, both on the "White Sands" and in the shadow of "Doctor's Cave," is such as very few may ever hope to experience. The water is startlingly transparent, and the bottom can be clearly seen fifty feet below. The city itself, those who have visited Italy say, resembles Naples; and if this be true Naples must, I admit, be a surpassingly beautiful city.

May it be my lot again to rest in the shade of the olive and the almond, and partake of the red "mazine" with the friends I left at Montego Bay. Then in the warm, golden days of sweet December, when the low hum of the bees is heard in the logwood blossoms, and the sambo girls are gathering the crimson akee from the branches, my ship shall come again—shall come again! And they will raise their heads, my friends, and drive down their ponies to the shore when they hear the rattle of our anchor chain.

Public Health and Hygiene.

... IN CHARGE OF ...

J. J. CASSIDY, M.D., AND E. H. ADAMS, M.D.

THE DIAGNOSIS OF SMALL-POX.

THE following circular has been issued by the Provincial Board of Health of Ontario to Physicians, Medical Health Officers and Members of Local Boards of Health of Ontario:

TORONTO, *March 6th*, 1901.

GENTLEMEN,—In view of the alarming spread of small-pox during the last month, owing to mild cases of the disease having been diagnosed as “chicken-pox” or other disease, the Provincial Board sends out this circular, which it is hoped will be of use to physicians in diagnosing mild cases of this disease with which few nowadays are familiar.

The following particulars will recall the chief diagnostic features of small-pox as seen in such a case as Fig. 1:

1. A prodromal period of more than 24 hours with headache, pain in the back and vomiting.
2. The rapid abatement of prodromal fever and malaise after 24 hours and until the appearance of the secondary eruption.
3. A primary erythematous eruption or rash, especially covering the abdomen.
4. The appearance on the third day from onset of the papular eruption with its firm shot-like feeling, and the tendency of the eruption to appear especially on exposed surfaces, as face and wrists, notably on forehead and about nose and lips along with an increase of temperature.
5. The appearance early of a red areola around the vesicles, which appear first in forehead, face and wrists, and pass gradually downward over the body, becoming mature and pustular by the fourth or fifth day with the typical umbilication.

6. The appearance of the eruptive vesicles on the roof of the mouth and fauces—this being of special diagnostic value.

The rodent character of the pustules and the subcutaneous inter-cellular infiltration serve to complete a picture, which—if taken with the fact that it is a disease attacking adults equally with

children, along with a history of probable infection—will cause in most instances the diagnosis to become easy. But modifications of the disease have not been uncommon in the wide-spread outbreak of small-pox which has prevailed over the United States and Canada within the past two years.



FIG. 1 (CONFLUENT).

Some of these are the following:

1. Some cases have but little prodromal fever; some have pains in back, some do not; some vomit, some do not.
2. In some the eruption without shotty feeling appears altogether, and disappears with one crop; in others there is the shotty feeling with occasionally another crop of vesicles.

3. All the secondary eruptions are papular in the first stage (there being seldom any primary rash) and may become vesicles within three days; some abort at this stage and dry up, while others become semi-purulent, marked at the apex with a dark spot, but with no notable umbilication.

4. In some there is no secondary fever.



FIG. 2 (SEMI-CONFLUENT).

Such are some of the notable variations in type, but it may be said that the history of exposure and the progress of the disease from its onset, are commonly so normal, and its variations from chicken-pox usually so distinctive, that there need be no hesitation in calling the disease small-pox. Fig. No. 2, taken from a case at

Toronto Junction, February, 1900, though not a good photograph, having been taken from outside a window, well illustrates the difference from a case of chicken-pox such as that seen in Fig. 4. Except No. 2, the several cuts are of cases referred to in a paper by Dr. William M. Welch, of Philadelphia, who has charge of the city hospital for contagious diseases.

It is thus apparent that while in some cases there is, from the purely clinical standpoint, great difficulty in arriving at a right



THE SUDBURY CASE.

conclusion, yet by a process of exclusion, together with a history of the case, few mistakes in diagnosis will occur. Thus the primary erythematous rash may suggest scarlet fever, but in this disease the rash usually first appears on the chest and neck, and the throat will show the anginose condition with the congestion of the lingual papillae, instead of the beginning of papules of the roof of the mouth, characteristic of small-pox. Moreover, scarlet fever is characterized by its sudden onset and the absence of prodromata. Varicella (chicken-pox), see Fig. 4, similarly, is sudden in its onset, with no distinct rise of temperature before the

rash begins to cover the body, especially first the parts covered with clothes, and the vesicles are filled with serum within 24 or 48 hours, and thereafter decline, but presenting a succession of crops seen in every stage of development. Measles has its preceding congestion of the respiratory mucous membrane, its croupous cough, and suffusion of the eyes.



NO. 3 (MILD SMALL-POX).

In conclusion, it may be suggested that wherever any doubtful case occurs in the practice of any physician he will best consult his own comfort and interest by reporting his suspicions promptly to the Local Health authorities, who, knowing their responsibility, make it a regular practice to report to the Provincial Board, and



No. 4 CHICKEN-POX.

in the meantime isolate the case, vaccinate the family and others exposed, and await the progress of the case till its true nature is finally determined.

We have the honor to be,

Your obedient servants,

H. E. VAUX, PETER H. BRYCE,

J. J. CASSIDY, W. H. OLDRIGHT,

Committee on Epidemics.

P.S.—In the instance of any doubtful rash, it is wise to vaccinate the patient immediately and isolate him for a week. If vaccination with good lymph fails, the case most probably is small-pox.

American Congress of Tuberculosis.—It is announced that the second annual meeting of the American Congress of Tuberculosis will be held at the Grand Central Palace, in the city of New York, on the 15th and 16th days of May, 1901, in joint session with the Medico-Legal Society of New York. A dinner will be given to the members and guests. It is proposed to open a Museum of Pathology, Bacteriology, and Public Health, with an exposition of electrical and other instruments; with the use of the power furnished at the building, which is intended to be made most complete, educating and attractive; of all appliances used in any way in arrest and treatment of disease. Many of the leading manufacturers have enlisted already, and the display will be on an extensive scale. The objects of the Congress will be to exchange the information and experience gained throughout the world, as to forces and methods most available for the extermination of consumption, which at the present moment is a disease, the most destructive of human life of any that now afflicts humanity. The medical profession of all countries will be invited to contribute papers to be read before this Congress, in their behalf, by a committee selected for that purpose, in case of the inability of the author to attend, and to enable those who could not hope to expect to be present to participate in the work and usefulness of the body. As the questions to be discussed involve remedial legislation, legislators, lawyers, judges, and all publicists, who take an interest in the subject, are also invited both to enroll and contribute papers. The papers should be forwarded to the Secretary on or before the 15th day of April next, and the title of the papers forthwith, to facilitate classification, as the time is short. The enrolling fee will be \$3, entitling the member to the Bulletin of the transactions free. The complete list of officers and committees will be announced as early as possible. The preliminary announcement is now made to obtain the names of those who will co-operate in the Congress, and an early classification of the subjects and titles.

STATEMENT OF CASES OF SMALL-POX IN THE PROVINCE OF ONTARIO TO MARCH 8th, 1901.

COUNTY.	MUNICIPALITY.	CASES.	DATE.	SOURCE.
*Algoma.....	Little Current.....	4	February 20.....	Local.
	Fort William.....	1	January 7.....	"
	Sault Ste. Marie.....	5	December.....	Michigan.
	†Batchewana.....	4	".....	"
	†Goulais Bay.....	2	January, 1901....	"
	†Michipicoten.....	1	".....	"
	Massey.....	7	February.....	"
	Wahnipitac.....	2	".....	"
	†Indian Reserve....	11	January.....	"
	Sudbury.....	30	".....	Unknown.
	Chelmsford.....	4	February.....	Sudbury.
	†Stobie.....	4	".....	"
	Copper Cliff Mine....	3	".....	"
	†Pennefather Tp....	2	February 20.....	"
	†Whitefish.....	1	March 1.....	"
	†Victoria Mine.....	1	February 19.....	"
*Carleton.....	†Worthington.....	1	March 6.....	"
	†Ramsay.....	1	".....	"
	Thessalon.....	1	".....	"
	Ottawa.....	1	February.....	"
	Goderich.....	1	January.....	Wisconsin.
	Cayuga.....	1	March 3.....	"
	Ernestown.....	1	".....	"
	London.....	5	January.....	Detroit.
	Bracebridge.....	2	February.....	Sudbury.
	Sturgeon Falls.....	1	".....	"
Norfolk.....	Walsingham, S.....	1	".....	Michigan.
Northumberland...	Seymour.....	1	March 4.....	"
Manitoulin.....	Nairn Centre.....	1	February 24.....	Local.
Renfrew.....	Barry's Bay.....	1	March 2.....	"
	Eganville.....	1	".....	"
	Rutherglen.....	1	".....	"
	Pembroke.....	1	".....	"
	Renfrew Town.....	5	February 25.....	"
	Adamston Tp.....	3	".....	"
	Brougham Tp.....	3	".....	"
*Simcoe.....	Penetang.....	1	".....	Unknown.
*Thunder Bay.....	Strevel's Camp.....	11	January 20.....	"
York.....	Toronto.....	4	February.....	Sudbury.
		131		

The * indicates the places where the outbreak has been stamped out.

The † indicates the unorganized districts.

These outbreaks have been suppressed in 8 places, leaving 113 cases of the disease.

Medical Jurisprudence and Toxicology.

... IN CHARGE OF ...
N. A. POWELL, M.D., AND W. A. YOUNG, M.D.

INAUGURAL ADDRESS AS PRESIDENT OF THE MEDICO-LEGAL SOCIETY.

BY CLARK BELL, ESQ., LL.D., OF NEW YORK CITY.

FELLOWS OF THE MEDICO-LEGAL SOCIETY:—There were many reasons why I should have preferred not to have again assumed the high office to which you have so kindly called me. The demands upon me at this moment are unusually pressing and absorbing of time. It seemed to me that a new man at the head would have been more successful than I can possibly hope to be. But my requests were not heeded, and I am still under renewed obligations for your kind and enthusiastic support.

I feel so much indebted to this body for such continuous loyalty and fidelity in aiding the efforts of all my colleagues, which have resulted in its present proud position, that I cannot ignore its mandate, and it is with renewed energies that I again take up the labors, and reassume the standard, which you have so many times entrusted to my keeping.

The New Century.—It is no light task, for any one who has studied the progress and growth of the century just closed, in its relation to the science of which we are students, to assume to lead our thoughts, studies and aspirations even, to the new century we are entering to-night. We are upon a threshold, where we must look forward ever, always forward. We must not look back, except for the purpose of replenishing the lamp, which is to guide us in the coming days, with the oil of experience.

We may also, I hope, be permitted, in the brilliancy of the glamor that surrounds the opening of the new century, to glance at the wondrous record of achievements of the past, to fill us with a more robust conception of what history will demand of mankind in achievement in the coming one.

The Past Century.—I cannot stop to-night to even recapitulate the magnificent strides that have taken place in the science of

forensic medicine in the last hundred years. This will be done by abler hands than mine.

Chemistry has outstripped all the sciences, by those wondrous achievements so related to the welfare and advancement of the material needs of the race. It has blotted out the word "agnosticism" from that domain of science. It has not left men room to doubt or to live by faith alone, because its demonstrations have overwhelmed and convinced the world.

The simple discoveries relating to the manufacture of steel, in the closing years of the nineteenth century, in its effect upon the construction of railways, implements, machinery, bridges, steamships and architectural structures, more than all other factors combined, have been at the base of those gigantic and splendid achievements that have borne as a fruit the wondrous development of our continent, and helped to bring the energy and the versatile inventive genius of the American people into the recognition of the world.

Such names as Edison and his confreres have furnished a light by electrical discoveries that has illumined these stupendous results with a glory more resplendent than that of the sun at midday.

I shall not stop to recount the wondrous achievements in science due to discoveries in light, steam and electricity, in which the American nation has borne no mean part, but shall simply say, that it may with safety be urged that the advances of science, along the lines of discovery in relation to the growth, development and civilization of the race, in the nineteenth century of the Christian era, exceed the sum total of all the centuries preceding it combined.

I feel that we must, therefore, approach the threshold of the coming century, if we expect to even equal it (much less to excel it), with bowed heads and reverent hearts.

Our Relation to the Work of the Past Century.—The historian of the century which has just closed will be in no doubt as to the value and importance of the labors of the Medico-Legal Society, in advancing the science of medical jurisprudence, since its foundation. These labors are now history. Its publications and contributions its members have made and inspired, in the last third of the century, have entitled the body to that public recognition which the ablest thinkers in forensic medicine of the world award it to-day, and whose verdict will be ratified by those who come after us.

The Work of the Past Year.—The greatest work of the year has been, probably, that of the Psychological Section, which its Annual Report will give in detail.

The report of the Section on Medico-Legal Surgery will also give details as to the progress of military, naval and railway sur-

gery, and the remarkable progress the latter science is making on this continent, and its recognition at the International Medical Congress of 1900, held at Paris, by representatives of this body.

The work and labors of the American Congress of Tuberculosis, held in February, 1900, and contributions made since, working in conjunction with this Society, produced most important contributions to the literature of Tuberculosis, which will fill a volume of its transactions, published under the auspices of this Society, in a bulletin, published in two parts, Part I. of which is now ready for members, and Part II. of which will be completed during the coming year.

The Executive Committee of this Society, at the January Session, recommended that the Second Annual Session of that Congress be held on the third Wednesday of May next, and those members who wish to contribute papers for the coming session, should furnish the titles to the officers of that Congress at an early date, to facilitate the preparation and classification for an initial programme.

Medical Jurisprudence at the Paris International Medical Congress.—There was no International Congress of Medical Jurisprudence held at Paris, on the occasion of the Exposition of 1900, as there was in 1889. This was, as it seems to the students of forensic medicine in America, a public misfortune. The science, however, was not wholly ignored.

Legal medicine was made the subject of a section, in the International Medical Congress of Paris, 1900, which embraced some of the more important subjects, which was splendidly officered, and exploited by men of science selected from all lands throughout the world.

This section was under the chairmanship of Prof. Brouardel, one of our honorary members, and the most illustrious name in France, if not in the world, in toxicological as well as other medico-legal studies, and Dr. Motet, the permanent secretary of the Medico-Legal Society of France, who occupies a place in the front rank of the alienists of France and medico-legal jurists.

Neurology, mental medicine and psychology was awarded a section under the charge of the ablest men of that domain of forensic medicine, to which contributions in this department were referred. At the head of this committee was placed the most luminous name among the master teachers of mental medicine of Paris, if not of the world, Dr. Magnan, of St. Anne, Paris. An auxiliary committee was organized by the president of this Society, at the request of Prof. Brouardel and Dr. Motet, chairman and secretary of the Section of Legal Medicine, which committee secured a large number of contributions to the various branches of forensic medicine.

Governmental Representation.—The government of France made a request of the American government that delegates, representing the government of the United States, be appointed to attend that Congress. This Society was greatly honored, and its usefulness recognized, by the appointment of its president as delegate to that Congress from the government of the United States.

It is but an act of duty to state that this delegate was treated by the International Medical Congress and its sections with the highest respect and consideration. He was made one of its honorary vice-presidents, and the same courtesy extended in those sections relating to forensic medicine; and to add, that the stimulus given to the science of medical jurisprudence by the International Medical Congress of Paris, in 1900, will long be felt in the world; that France has given a new lustre to that glory, which has everywhere been awarded her, for the splendid example that her government has given to the nations of the world, by her constant splendid aid and support to the advancement of science.

When the American government shall have advanced into a recognition of this truly splendid and magnificent work that the government of France has done for science; when the American President shall see the proud and exalted position France has occupied in the eyes of all the civilized world, with the brilliant illumination presented, by an exposition of unparalleled success in the field of science and art, and shall have emulated and followed it, we shall see some of the crowning glories in store, in the new century, in the destiny of our country.

The American government should, like the government of France, throw the whole force, might and power of the nation into the scale, in aiding, sustaining and promoting the sciences. It is this superb, splendid action, due to the sagacity and wisdom of the rulers of France, that has placed France in the vanguard of nations, in the highest achievements of human civilization, and the advancement of arts of our era. We can look upon her magnificent success, but we must follow in her footsteps with the great resources of our country, before we can ever overtake her.

I point to the day, early in the present century, when America, along the lines that has made France resplendent in advancing the civilization of mankind, will outstep and exceed her; because our resources are so much greater, our country so much larger and more expanded, and our eyes more largely opened to the needs of the power and material support of the government for the promotion and development of all the sciences, and success of the useful arts, so closely identified with the growth and the prosperity of the nation.

The Unwarranted Use of Arbitrary Power by the Governor in Removing Officers.—There are some public events that ought

not to be ignored, and which I deem it my duty to bring to your attention. The retiring governor has, in the closing days of his term, removed from office two gentlemen, one of whom is an active member and one a corresponding member of this body without a trial, refusing to listen to evidence, which it is claimed by each was an arbitrary and unwarranted use of power—the one, the president of the State Commission in Lunacy, a gentleman of the highest character in the state, which leaves him remedyless at law, as the law is now construed, and with a reflection upon his private character; the other, the district attorney of the county of New York, a gentleman of high social position and an unsullied reputation. The publicly assigned reasons for the last removal are such as probably would not justify a court of justice approving of the removal, if the question could, under existing legal procedure, be brought before a judicial tribunal. In the case of the latter, the people can be asked to pass upon the merits of the case at the polls at the next election, and will probably be so called upon. In the former, the office being an appointment by the governor, by and with the advice and wish of the senate, the people cannot be called upon to pass upon it.

The incoming governor, who has already inspired men of all parties with great confidence, both in his wisdom and courage, and in the purity of his motives, would have a right to review and reappoint the late commissioner, but might not feel willing to do so, in case he should decide that the action of the late governor was legal, and that a vacancy existed. But there are circumstances attending the case that may require him to examine into the facts, especially as the present law limits those who can hold this office to a few individuals. The act limits the governor in filling this office, if he should regard the action of his predecessor legal, and as creating a vacancy, to a very few men of a class created by the act, which is probably in violation of the state constitution. Outside of the superintendents of hospitals for the insane, who are already in official positions, there are probably not five persons in the state who are eligible to hold this office under the present law. This provision of the law, if constitutional, should at once be changed and repealed, and the present governor will doubtless so advise, and may withhold action until that is done.

It is in violation of the spirit of our laws, that the governor of the state should be in any sense restrained or restricted, in the exercise of the appointing power, in securing the most fit person in the state for the office he is required to fill.

Under the Public Officers' Law, as to the removal of officers appointed by the governor and senate, a hearing is provided for, and either the governor may take the evidence, or appoint a justice of the supreme court or commissioners for that purpose.

The hearing being judicial in its nature, the respondent is entitled to be confronted by the witnesses against him, and has the inalienable right to produce witnesses in his behalf. The law contemplates that it shall be "*evidence*," not merely testimony, upon which the executive shall act. In the case of the state commissioner of lunacy, no evidence was taken. The method prescribed by law was not pursued for the judicial ascertainment of the facts. No witnesses were sworn on behalf of the state, as to any of the facts stated in the charges; and the requests of the respondent to be allowed to produce witnesses in his behalf were denied. If the governor did not act upon legal evidence; if he refused to allow the respondent to call witnesses in answer to the charges, and acted upon copies of letters that have been purloined from the private desk of the respondent, and which were not duly authenticated by evidence, as has been charged; the action of the governor would not be within the purview of the law known as the Public Officers' Law, and the action would be void and of no legal effect, and would not create a vacancy in the office.

The best friends of the late governor will doubtless characterize his action in these cases as indiscreet, unwise, and dangerous as a precedent. I have the honor to recommend that a committee be named by this body, to inquire into the facts and circumstances of these removals, separately, with full powers, and with power to send for persons and papers, and take evidence under oath; and that this committee be instructed also to report what legislation or changes in the constitution, if any are needed, to prevent a repetition of such occurrences, or what legislation or constitutional changes are necessary, in the state of New York, to prevent the removal of officers elected by the people, or appointed under power of the governor and senate, without a trial, or for partizan or personal reasons, or by the unwarranted use and exercise of an arbitrary power; and to provide for a review in such cases, by either the court of appeals, or such other tribunals as the legislature may provide for.

The present cases are of such a character, as apparently show the necessity of such legislation, or constitutional changes, as would protect the unwarranted and arbitrary use of power, without any provision for review, in cases like that of the chairman of the state lunacy commission, where the victim might be ruined for life, professionally, without the slightest chance for relief, trial, or review.

It is claimed by the late president of the state lunacy commission that his private papers were abstracted from his private desk, and that stolen copies thereof were in the possession of the governor on the hearing, which copies, unauthenticated by evidence, he acted upon; that he refused to allow the accused or his counsel

to see or inspect these for authentication; that the accused informed the executive that these copies, which he had in his possession, and upon which he acted, without any evidence as to their authenticity or genuineness, had been purloined from his private desk.

The action of the executive involves the elementary principles of law, and the rights guaranteed to the citizen under our constitution, and if allowed to pass unchallenged, and to stand as a precedent, might, in the case of an exciting political contest, where the power was exercised for partizan or personal reasons, create or incite to revolution, and put in peril the very elementary principles of law and of individual rights on which our government rests.

In calling your attention to this subject, I wish to entirely disclaim any partizan political feeling or motive. Men of all shades of political views are in our membership. It is an issue higher than any question of partizan interest, and we should divest our minds of all personal or partizan political feeling or prejudices, and our action should be wholly non-partizan in every respect.

Questions under Investigation.—Public questions of great interest, and of the highest importance, are in the hands of select committees of this body, to which I shall now call your attention in detail, viz.:

1. The release of Mrs. Maybrick.
2. Legislation regarding cremation as a means of concealing crime.
3. The present state of the law, and needed legislation regarding what is known as Christian Science teachings.
4. Questions regarding expert testimony and the introduction of standard works as evidence in the courts.

Other questions of great interest are now under consideration by this body, not referred to select committees, matters to which the attention of the members is desired.

The Present Membership.—On January 1st, 1901, on the active roll of members there were 507 names, on the corresponding roll of members there were 552 names, on the honorary roll of members were 13 names, making a total of 1,072 names, not including about 250 names that are on the suspended list for non-payment of dues, and not including the roll of Section members which is, Psychological Section 172 names, Medico-Legal Surgery, 98 names, total section members, 270.

Finally.—Let us assume the work and duties devolving upon us all, with courage and determination to spare no pains to make our labors in the future at least equal to those of the past, in the hope that in the new century we shall bear our part worthily and well.

• • *Selected Articles.* • •

TREATMENT OF TUBERCULOSIS BASED UPON RESULTS FROM PREVIOUS PATHOLOGICAL EXAMINATIONS OF BLOOD, SPUTUM, AND URINE OF PATIENTS.

FROM observations of a series of cases of tuberculosis which I have made, in cases which had been treated by various physicians according to their best ideas of treatment, cases which have been diagnosed by physical examinations, and cases the treatment of which was based upon results obtained from a pathological examination of the blood, sputum, and urine of the patient, I have come to be convinced that the latter class of pathological examinations if continued from time to time, are the best guide to help the physician and patient to a successful termination of this dreaded disease. There are many new remedies used in tubercular diseases which tend to prolong life, amongst which we find physiological and biological products derived from the animal organism. The anti-toxins, the anti-tubercular serums, the nuclein products, belong amongst the latter class of products. What effect these products have on the tubercle bacillus, or what tissue-repairing functions they may possess, can not be demonstrated by experimentation upon the lower animals alone, but such experimentations must be reaffirmed by clinical results obtained from their use upon the tubercular patient. I will not dispute that, were we confronted by a patient with a dry and irritable cough, profuse expectorations, temperature of 101 or more, pulse 110 or more, emaciated, no appetite, auscultation and percussion revealing a tubercular process, night sweats, and hectic fever, we would be correct in making our diagnosis of tuberculosis, especially if examination of sputum revealed the presence of bacillus tuberculosis. The majority of practitioners, if confronted with the above conditions, are satisfied to place their patient on the various medications indicated in tuberculosis, consisting of hygienic surroundings, special diet, tonics, cod-liver oil, and in many instances resort to anti-tubercular serum. Their methods of treatment are followed indefinitely, to be changed according to symptoms prevailing. Little, if any, attention is paid to the pathological study of the blood of the patient at the beginning of treatment to note what effect, if any, the treatment might

have upon the various blood-cells, and whereby the physician might learn whether he might look for a favorable or unfavorable prognosis of the case. Why the examination of the blood should be an important factor in the treatment of tuberculosis may be learned if we recall to our memory the structure and evolution of the tubercle. The bacillus tuberculosis enters the tissue or organ and strangulates or irritates the connective-tissue elements, causing proliferation of round cells resembling epithelial cells by their abundance of protoplasm. Infiltration with leucocytes, mostly mononuclear, from the surrounding blood-vessels follows, and this leucocytic infiltration represents the reaction of the vascular system to the tubercular irritation or infection. There is no need to further follow this subject, but in my belief, knowing the above facts, it is of interest and a necessity to learn the exact pathological condition of the leucocytes in the blood of a tubercular patient. If a leucocytosis is presented, we must determine the percentage of the mononuclear and polynuclear forms and of myelocytes, noting probable karyokinetic figures within the nucleus. We must follow the results thus obtained by an examination of the urine to learn as to what extent the leucocytosis is destructive. This we learn by the amount of xanthin bases and uric acid, and we may also learn that protective substances are liberated in the urine. In tuberculosis we generally meet with hypo-leucocytosis, or lenkopenia, or a deficiency in the number of leucocytes caused by a disturbance in the distribution of leucocytes. Whichever of the above conditions confronts us, they deserve due consideration and thought prior to determining upon the treatment of the case. Modern physiology teaches us that whenever the first alarm of disease is sounded in the organism the leucocytes rush in increased numbers to resist any pathologic attack. Leucocytosis is not a diseased condition, but, on the contrary, it is a rallying of physiological units to the point of the attack, causing protection to the organism. By their phagocytic action, the leucocytes devitalize any foreign element introduced into the organism. Ordinarily the leucocytes appear as small roundish cells, but when stimulated to activity they change their form; they elongate, and force their way through the smaller and narrowest channels. At times they break, their nuclein is absorbed by the different cell-tissues of the body, or they form into one or more new leucocytes. This latter condition is a favorable one, and if produced on a large scale by means of medication, is of vital importance. The creation of new and active leucocytes is most desirable in the treatment, not alone of tuberculosis, but in all infectious diseases. The leucocytes possess the power to wander through the blood-channels at will. They will pass out of the vein-channels, through the vein channels, through the capillary walls, and will re-enter the veins. They ab-

sorb all proteids and waste matter; they attack, destroy, and digest toxic germs. They possess all the fundamental properties of protoplasm; thus when they divide and the protoplasm escapes into the surrounding tissue, it has the property of becoming a part of that tissue. The leucocytes supply the different cell-tissues with fresh building-up material in the shape of nuclein; they are the carriers and distributors of tissue pabulum. The use of the microscope is absolutely necessary along the lines of investigation in tubercular diseases to determine as to the most efficacious medication to be employed in the treatment of this dreaded disease. The cases which I cite here were followed up by the semi-weekly examinations of the blood, urine, and sputum. The treatment was regulated according to results obtained from these examinations, and I am satisfied the extra work and study have been beneficial both to the patients and myself. Good food, fresh air, and other favorable conditions must accompany all treatment. If your patient feels stronger and more vigorous in the poor, cold, thin air of the mountains, he should go there; if his vitality is renewed by inhalation of damp, salt air, he should select his abode near the seacoast. The same climate will not suit two individual tubercular patients. The physician should endeavor to find out from his patient which surrounding seems to give him the most energy and vitality, and should direct his abode accordingly. Thus I find that some of my cases prospered near the seashore, while others recuperated, aided by mountain air.

CASE 1. First stage. February, 1899. Miss D., age 19, father and mother died of phthisis, has been sick for the last few months, cough, with slight expectoration, loss of appetite, normal weight 125 pounds, now weighs 98 pounds, night sweats, hectic flushes.

Blood examination: Hemoglobin, 49 per cent.; red cells, 2,350,000; white cells, 7,200; a number of decrepit red corpuscles, small-sized and pale, poor in albumin and hemoglobin; no nucleated red cells.

Differential count of leucocytes: Polymorphonuclear, 80 per cent.; large lymphocytes, large and transitional, 8 per cent.; lymphocytes, small, 9 per cent.; eosinophiles, none; myelocytes, 3 per cent.

Examination of sputum: Pus-cells; bacillus tuberculosis, exceedingly numerous.

Examination of urine: Color, milky; reaction, slightly acid; specific gravity, 1.014; albumin, traces; sugar, none; diazo reaction, positive. Microscopically: Epithelial cells, pus-cells, few leucocytes and red cells, free fat drops, few uric-acid crystals, bacteria, and few tubercle bacillus.

Patient was ordered four Protonuclein tablets two hours before

meals and before retiring. This treatment was continued for eight weeks, during which time I saw the patient twice a week for the purpose of following up my blood, sputum, and urine examination. The former reveals a daily increase in young and active leucocytes, a gradual increase in red cells. The amount of tubercle bacillus decreases daily, and within three weeks of beginning of treatment no more bacillus is found. The urine is apparently normal. On the first week of April, 1899, patient weighs 119 pounds, a gain of 21 pounds. In eight weeks cough has entirely ceased, no abnormal sounds can be heard on auscultation and percussion. Since that time, up to this day, I have seen the patient repeatedly; feels entirely well, no return of any previous symptoms.

CASE 2. *Second stage.* February, 1899. Mrs. L., age 39, parents both died of phthisis, patient has been sick for about a year and has fairly lived on cod-liver oil and tonics, appetite poor, tubercular cachexia, severe cough, and profuse expectoration, loss of appetite, pulse 98 to 110, temperature always one to three degrees above normal in the evening, hectic flushes, normal weight 173 pounds, now weighs 131 pounds, tubercular deposit located in upper lobe of right lung, small cavity.

Blood examination: Hemoglobin, 42 per cent.; red cells, 2,600,000; white cells, 13,400; crenated and decrepit red corpuscles, poor hemoglobin, no nucleated red cells.

Differential count of leucocytes: Polymorphonuclear, 81 per cent.; large lymphocytes, 9 per cent.; small lymphocytes, 9 per cent.; eosinophiles, none; myelocytes, 1 per cent.

Examination of sputum: Pus-cells, bacillus tuberculosis.

Examination of urine: Color, pale straw; reaction, acid; specific gravity, 1.012; albumin, traces; sugar, none; diazo reaction, positive. Microscopically: Epithelial cells, pus-cells in clusters, leucocytes, and a few red cells, uric-acid crystals, micrococci, streptococcus, pyogenes, smegma bacillus, and bacillus tuberculosis.

Patient was ordered four tablets of Protonuclein before meals and before retiring. Within the first week I noticed that this patient did not show the improvement as in case 1. The second and third examinations of the blood also showed no such changes as were noted in case 1. It then occurred to me that Protonuclein exerts its physiological action directly upon the cellular element of the blood, and, furthermore, that immediately before, during, or after a meal there occur profound pathological changes in the blood, and that possibly the latter condition deterred the action of Protonuclein, and I at once decided to direct the patient to take the Protonuclein two hours before meals and before retiring. This caused an immediate change for the better, and subsequent experience has taught me that Protonuclein proves most efficacious if

administered half way between meals. The patient continued on this treatment for three months. After the first week's treatment a decided change for the better was noted, not alone by physical examination, but the latter was corroborated by pathological examination of the blood, sputum, and urine. Repeated blood examinations revealed the fact that Protonuclein increased the number of white corpuseles. It is necessary to state here that the precipitated leucocytosis differed in all respects from leucocytosis as generally found. Using the hot stage for blood examination and extending my examinations and investigations in each instance for one hour or more, I found that within one hour after taking Protonuclein the polynuclear leucocytes and leucocytes with karyokinetic nuclei became very active; they appeared to distend, and the nuclear forms divided into three or more distinct nuclei. In due time each one of the nuclei surrounded itself with a blastema and assumed the role, so to say, of a rejuvenated leucocyte with full phagocytic properties. If we recall the fact that the functions of the phagocytes tend to attack and destroy bacteria, it appears very reasonable to assume that in tuberculosis they attack the tubercle bacillus. The devastated surfaces previously inhibited by the bacillus are rebuilt by the nuclein of the leucocytes. Thus, by administering medication in tuberculosis, I believe we get absolute results by selecting organic products which tend to supply the leucocyte with an abundance of nuclein—more than they can ordinarily obtain from the digestive channels.

Returning to Case 2, previously reported, it remains to be said that the patient appeared in perfect health for months after beginning of treatment. Weight 162 pounds, menses had returned; patient sleeps and eats well, and is able to follow her daily occupation. I have seen the patient repeatedly during the winter, and though she had several attacks of slight colds, there is no indication of any tubercular disease. The above-cited cases are but two out of a series of thirty-seven cases, clinical reports of which show the value of Protonuclein in the treatment of tubercular disease. I must admit that previous short experiments with this organic product rather left me in doubt as to its therapeutic value, but I have learned that the proper administration of this remedy depends upon a close physical study of the patient as well as upon a pathological examination of the blood, sputum, urine, etc. At times an examination of the stomach contents is of great value, especially if general malaise, nausea, indigestion accompany diagnosis of tuberculosis.—*The Charlotte Medical Journal*.

A CASE OF MEMBRANOUS ENTERITIS SUCCESSFULLY TREATED BY THE USE OF CAROID.

BY E. L. BRAUNWARTH, M.D., MUSCATINE, IOWA.

PROBABLY in no other disease of the intestinal tract do we find the etiology and pathology so obscure as in the peculiar affection known as "pseudo-membranous enteritis." The disease was doubtless occasionally met with in practice, yet no distinct account of it occurs in the medical writings of the ancients, nor even in works dating down as late as the eighteenth century. Indeed, it was really not until the beginning of the nineteenth century that it had any recognized place in nosology. Aretæus, writing in the second century, speaks of the alvine discharges of dysentery as sometimes containing a substance of considerable length, which in many respects could not be distinguished from a sound piece of intestine, and which we regarded as the inner coating of the bowel. Similar erroneous views were held in turn, by Simpson, Morgagni, Lancisi, and Spindles; while Bauer, in 1747, discusses the subject under the title of "intestinal moles." These various authors, however, were evidently referring to the exudate (which occasionally assumes a tubular form) characteristic of the disease, which Powell, in 1818, discriminated from other affections having like general symptoms; and which has been specifically recognized under the term "membranous enteritis."

As to its cause, there has been in this, as in other diseases of obscure nature, much divergence of opinion. It has been found, however, that sex, in some way, exerts a marked influence, for in an analysis of one hundred cases, four only occurred in males. They who have investigated the subject to any extent, agree in the opinion that the victims of the disease are mostly women, between the ages of thirty and fifty, who have been subject to ovarian troubles or menstrual irregularities. Temperament, too, is evidently a very important factor, it having been observed that nervous and hypochondriacal patients are peculiarly susceptible. Any enervative influence, however, that degrades physical health and impairs nerve power, may be considered a causative agent; for those who are deficient in elasticity of fibre, compose all but a small percentage of the cases. But, whatever may be the determinative cause, perversion of nutrition and innervation of the gastro-intestinal canal invariably co-exist.

In regard to the exudate itself, some believe, as did Powell, that it is the result of croupous inflammation, though the membranous, ribbon-like mass, being composed principally of mucin

instead of fibrin, can hardly be considered croupous or diphtheritic in character. DaCosta and other observers were inclined to ignore the inflammatory nature of the disease altogether, believing that the true trouble is in the ganglionic nervous system—in the nerves presiding over secretion and nutrition in the abdominal viscera. The configuration of the exudate varies greatly in different cases, in some appearing as transparent, jelly-like masses, resembling white of egg; in others, as yellow-white, shreddy pieces, like macaroni; and in still others, as tubular casts of the bowel itself.

While the prognosis of this disease is not considered unfavorable as far as life itself is concerned, yet as regards permanent restoration to health and strength, the case is entirely different—such deep inroads upon nutrition and the vital powers usually being made, that the results of treatment, so far as yet reported, have been very unsatisfactory. As one writer states, however, it is evidently our duty in the treatment, “first, to remove the membranous exudation when it has once formed; and second, to correct the conditions upon which its formation depends by improving nutrition and invigorating the nervous system.” Hygienic measures should also be observed, the diet being graded to the ability of the stomach to digest and the body to assimilate, while bathing, massage, exercise and change of climate are all-important factors. In the following case the treatment was so eminently satisfactory that a brief report of it is submitted here to encourage investigation by others along similar lines:

Mrs. K., American, age 28, a pale, nervous, delicate woman, five feet two inches in height, and weighing ninety-seven pounds, presented herself for treatment for a disease from which she said she had been suffering two and a half years, the greater part of this time under the care of physicians. The patient was the mother of two children, aged eight and ten years respectively. She complained of the following symptoms: belching gas, bloating, and palpitation to a distressing extent after eating, irrespective of the character of the food, or whether she dieted or not. Pains in the abdomen were of a bearing down or colicky nature, especially before an evacuation of the bowels.

The patient stated that at one time she passed a ribbon-like mass of mucus, sixteen inches in length by actual measurement, which, when shown to a physician, was pronounced to be a tapeworm and treated as such. She said that when taking strong physic, none of the exudate appeared in the passages, but when she stopped it would always return. Growing constantly worse, she finally consulted me at my office, bringing specimens of mucous, ribbon-like masses, eight inches long, light gray in color, some of which were irregular in form and friable. She often

passed from one-half to one pint at a time, occasionally without pain; but most of the time there was pain of a colicky nature in the lower abdominal region on the left side, also in the uterus, ovaries, and down the limbs. After the administration of a physic, the mucous exudate would accumulate in the rectum and be passed first, then followed by the bowel contents, the latter being occasionally mixed.

The patient was always able to come to the office, although she complained of having "weakspells," especially at night when left alone—suffering with nervous chills, nausea, and occasionally headache and backache. Her menstruation was usually regular, while obstinate constipation was the rule. Such were the symptoms of which she complained; and, although for some time the rules of dieting were closely observed, and alteratives, such as Fowler's solution, were given; while tonics, such as iron, quinine, strychnia, etc., besides digestives, eliminators, and nerve sedatives (which were always necessary) were also prescribed—still these mucous discharges continued.

Routine treatment, as above described, had been persisted in for a number of weeks, without results; until, finally, one day, having noticed in Prof. Hemmeter's work (*Diseases of the Stomach*, p. 346), favorable reference to Caroid, the digestive ferment of *Carica Papaya*, I decided at this stage to try it. I at once ordered the following in tablets, and requested the patient to report results:

R Caroid gr. j.
 Charcoal }
 Boric acid } ãã gr. iss.
 Sig. Two tablets after each meal.

A few days afterward, she appeared with a smiling countenance, and stated that she had obtained more relief from that medicine than any other she had ever taken. I decided that, inasmuch as the Caroid with charcoal had done the work, it also should have the credit, and ordered a continuance of the treatment. She took the tablets after meals, as directed, with a warm water enema every night.

Nine months have now elapsed since this patient began her treatment with me, during the last four of which, though no Caroid and charcoal tablets have been taken, she has passed no mucous masses of any description. Her bowels are regular, food is thoroughly digested, she eats well, sleeps well, and is very thankful for the relief given her. This and other experience of later date has convinced me that in Caroid, we have a certain solvent of any and all organic matter within the alimentary tract, and a remedial agent of no ordinary worth and application.

The benefit derived from the use of Caroid ferment in this

case, would seem to have been due, *first*, to its enzymotic power to digest all classes of food products; and *second*, to its action in preventing the formation of the membranous exudate in the intestines, or in dissolving it when once formed. Its power to dissolve the false membrane of diphtheria is already well understood, and its action upon the mucous exudate in the present case was, doubtless, of a similar nature. Its special indication, however, in cases like that we are considering, is to supply the lack of chemical or physiological action on the part of the natural digestive ferments, the latter, as is well known, being always deficient in membranous enteritis. The result of this deficiency is maldigestion, with all the accompanying symptoms due to fermentation—nausea, flatulence, gastralgia, constipation, etc. Through the administration of Caroid, therefore, the foregoing symptoms are wholly ameliorated; the food contents of the stomach are thoroughly digested; extraneous mucous formations in the intestinal tract are dissolved; while, at the same time, a tonic and sedative action on the secretory membrane of the stomach is produced, resulting in an increase of the appetite and a relief from pain following the ingestion of food.

CACODYLIC ACID AND CACODYLATES—ORGANIC SUBSTITUTES FOR ARSENICAL PREPARATIONS.

Sodium Cacodylate.—Sodium cacodylate is the salt which has hitherto been given the preference in medical practice, being employed for internal administration, subcutaneous injection, and per clisma.

According to present experience the employment of the cacodylate is indicated wherever arsenical treatment, such as the administration of Fowler's solution, is resorted to. Danlos (1) first used the remedy in psoriasis and pseudoleucemia. Renaut (2), A. Gautier (3), H. Gijsselman (4), Podanowski (5), H. Rille (6), Letulle (7), Mouisset (8), J. Widai, Prosper Mercklen and Dalche (9), have found sodium cacodylate of special value in the early stages of local tuberculosis, as well as in diabetes, morbus Basedowii, anemia, chlorosis, leucemia, and malaria. A. Bormans (10) recommends the preparation principally for anemias and chlorotics who cannot bear iron well. Billet (11) observed excellent results in cachexia of malaria. In the latter case the cacodyl treatment appears to have a very favorable influence on the sequelæ of quinine medication, which, although very effective, has a deleterious action on the blood corpuscles. Petrini (12) cured a case of pharyngeal sarcoma with sodium cacodylate, and Renaut (13) noted considerable improvement from administra-

tion of sodium cacodylate in epithelioma of the tongue. Garand (14) cured a case of chorea with the same remedy.

The majority of French investigators recommend the subcutaneous employment of sodium cacodylate, although the introduction of the sodium salt per rectum, as recommended by Renaut (15) is also largely practised, as the remedy is exceedingly well tolerated by the mucous membranes of the intestines and rectum, and causes neither diarrhea nor melanoderma, nor arsenical paralysis nor liver troubles. Internal administration per os also finds some advocates, and Dalche (16) especially recommends this mode of employment, although it may easily give rise to the characteristic garlic breath. As a general rule in administering sodium cacodylate a dose of 1.01 grm. (1-16th grain) arsenious acid is equivalent to 0.016 grm. (1-4 grain) sodium cacodylate, but as compared with other arsenical compounds the cacodylate of sodium is so slightly toxic that as much as 1 grm. (15 grains) may be taken internally by an adult without danger. The advantages of the administration of cacodylic acid are, therefore, that extremely large doses of arsenium can be assimilated by the organism absolutely without danger.

For subcutaneous injection Gautier (17) gives the following prescription:

R	Natrii Cacodylatis	6.4 (gr. 96)
	Alcoholi carbolisati	gtt. 10
	Aque destill.	100 (f. oz. 3½)
	Sterilisa !	

An injection of 1 cem (*m* 16) of this solution is made, corresponding to 0.05 grm. (5-6 grain) cacodylate. This is an ordinary daily dose for adults, but there need be no hesitation in doubling it, provided that the treatment is interrupted every eighth or tenth day and an interval of 8 or 10 days allowed before recommencing.

For administration of the cacodylate per clyisma Renaut (18) uses two solutions of different strength according to the severity of the cases:

1. Stronger Solution :

R	Natrii Cacodylatis	0.4 (gr. 7)
	Aque destill.	200.0 (f. oz. 7)

2. Weaker Solution :

R	Natrii Cacodylatis	0.25 (gr. 4)
	Aque destill.	200.0 (f. oz. 7)

Two injections are made daily with 5 cc (*m* 80) of either solution for six days in succession, during the following six days three injections are made daily and the treatment is then stopped for three to five days; after this interval a new series of injections are made.

For internal administration Danlos (19) prescribes the cacodylate as follows:

R	Natrii Cacodylatis.....	2.0 (gr. 30)
	Spiritus sacchari.....	
	Sirupi simplicis.....	20.0 (f. dr. 6)
	Aque destill.....	60.0 (f. oz. 2)
	Olei menthae.....	pip. gtt. 2

A teaspoonful of this mixture contains 0.1 gm. (1 1-2 grains) sodium cacodylate.

Danlos gives men several weeks in succession 0.4 to 0.6 gm. (6 1-2 to 10 grains) sodium cacodylate pro die internally; women are given 0.3 gm. (5 grains) daily. Most of the above mentioned authors, however, prescribe smaller doses, for skin diseases the dose averaging 0.05 gm. (5-6th grain) one to five times daily, whilst in other indications even smaller doses of 0.025 to 0.05 gm. (2-5th to 5-6th grain) pro die suffice.

Children æt. 10 to 15 years are directed to take within 24 hours 0.03 to 0.04 gm. (1-2 grain to 2-3 grain); children æt. 6 to 10 years are given 0.02 to 0.03 gm. (1-3 to 1-2 grain); for children æt. 3 to 4 years, the daily dose amounts to 0.01 gm. (1-6 grain), infants below this age should take only a part of a centigramme (part of 1-6 grain) within 24 hours. Rocas (20).

If it is desired to prescribe sodium cacodylate in pills, the following prescription will be found advantageous:

R	Natrii Cacodylatis.....	0.25—1.0 (grs. 3½ to 15)
	Sacchari albi et	
	Gummi arabici a sufficiency to make twenty pills.	

One, two, or five pills to be taken daily.

Ferrie Cacodylate.—Gilbert and Lereboullet (21) propose to employ ferrie cacodylate for subcutaneous injection in place of other iron salts, as by its use the customary unpleasant general symptoms and renal complications are avoided. The administration of this preparation appears specially indicated, if it be desired to combat both the decrease in the number of red blood corpuscles and the diminution of hemoglobin. In chlorosis the ferrie cacodylate produces a rapid, extensive and permanent increase of hemoglobin, whilst chloro-anemia of different origin, especially the chloro-anemia of phthisis, appears to be favorably influenced in its incipient stages. In such cases this treatment never causes congestion nor hemorrhage. Even in persistent albuminuria cacodylate of iron is not contra-indicated, as is established by the abatement of the disease in five cases thus treated. The different types of lymphadenitis and leucemia which are amenable to arsenic treatment, appear specially suitable for medication with iron cacodylate. The preparation may be prescribed either for in-

ternal administration or subcutaneous injection. The daily dose varies for subcutaneous application between 0.03 and 0.10 grm. (1-2 to 1 1-2 grain) and for administration per os between 0.05 and 0.3 grm. (1 to 5 grains). Only dilute solutions in accordance with the following prescriptions should be used subcutaneously, as, when more concentrated, painful indurations at the point of injection are formed.

R	Ferri Cacodylatis.....	0.3 (gr. 5)
	Aque destill.....	10.0 (f. dr. 2 $\frac{3}{4}$)
1, 2 or 3 c.c. (III 16, 32 or 48) to be injected daily. Internally it is best prescribed as follows :		
R	Ferri Cacodylatis	1.0 (gr. 15)
	Aque Cinnamoni	25.0 (f. dr. 7)
20 to 40 drops thrice daily.		

Mercury Cacodylate.—At present only the results of pharmacological experiments with this cacodylate on animals are known. Vayas (22) found that the lethal subcutaneous dose of this salt for a rabbit weighing 1900 grm. (4 1-4 pounds) was 0.16 grm. (2 1-2 grains), whilst small doses of 0.02 to 0.06 grm. (1-3 to 1 grain) always promoted increase in weight without local reaction. Doses of 0.1 grm. (1 1-2 grains), injected into the veins of a rabbit of medium size, cause death, whilst doses of 0.02 to 0.05 grm. (1-3 to 3-4 grain) are tolerated without difficulty.

The success of these experiences induced Vayas to undertake a trial of the preparation at the Hospital Broca in Paris, but the investigation has not yet been completed. The dose for intramuscular application has been fixed at 0.03 grm. (1-2 grain pro die).

Guaiaicol Cacodylate.—As far as the literature yet to hand shows, guaiacol cacodylate has hitherto only been employed by Barbary (23). He is said to have employed injections of the preparation dissolved in oil with great success in tuberculous diseases.

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MEMBRANOUS CROUP.

BY LOUIS J. PONS, M.D., ROXBURY, CONN.

DIPHTHERIC, or true croup, is probably the most fatal disease of childhood, one which kills with such rapidity, and where our best remedies prove of little avail, that it is not strange that the medical attendant feels helpless when called to treat a case of genuine croup.

Theoretically, many of our standard prescriptions ought to relieve, but on trial prove to be failures. To witness the gasping and struggling for breath, and other symptoms caused by impeded respiration and imperfect oxidation of the blood, and the inability to help the sufferer, is unpleasant and appalling to any physician. During a practice of fifteen years, I have attended quite a number of such cases, with a mortality of eighty per cent. Last winter I treated two cases, and both recovered.

CASE 1.—A. F., male, aged twenty-two months, for two days previous to my first visit had what the mother supposed to be a hard cold. I found the child's temperature to be 102 degrees F., pulse 135, appetite poor, bowels constipated, and urine scanty, obstructed respiration, and the peculiar cough characteristic of croup. With the exception of a few bronchial rales, the lungs appeared normal.

Treatment.—One-tenth grain calomel every two hours until bowels moved freely; one-half grain of quinine sulphate every four hours; tartaric emetic and bichromate of potash, each one one-hundredth grain, every two hours. External applications of turpentine, one part, and olive oil, five parts. Also had room saturated with the vapor from a dish on the stove, containing boiling water, to which we added several times a day a tablespoonful of a mixture containing equal parts of carbolic acid, turpentine, and oil of eucalyptus. The next morning I found the patient's condition about the same. Treatment continued.

At 8 p.m. the father came for me (eight miles in a severe snow-storm), saying the baby was in such a low condition that I should probably find him dead when I arrived. Beside my regular medicine bag, I also took a tracheotomy tube and a vapo-cresolene lamp. The little sufferer seemed to be beyond aid, and the end near; nevertheless I succeeded in having him swallow one two-hundredth grain glonoin, and in a few minutes an emetic of ipecac, erected a sort of a tent about the cradle, lighting the vapo-cresolene lamp, and placing it on one side, fixing a newspaper so that the vapor

must draw across the child's face, leaving a small outlet on the other side of the tent.

In less than an hour the child became uneasy, and vomited quite a quantity of mucus, and several pieces of membrane, the largest measuring three by one-half inches. This gave him some relief, and the breathing became somewhat freer. Keeping up the vapo-cresolene, I prescribed the dark iodide of lime, one-quarter grain every hour; sulphate of quinine, one-half grain every four hours, and one-half teaspoonful of whisky every two hours. For nourishment, bovine and milk.

In forty-eight hours improvement was so marked that the above treatment was stopped, syrup hypophosphite compound and syrup hydriodic acid substituted.

CASE 2 occurred a few weeks later, and was similar to the first one. Profiting by my previous experience, we at once started the vapo-cresolene, and giving quinine and iodide of lime, as in the other case, also a laxative, and turpentine and oil applications to chest and throat. Although he was in a precarious condition when treatment was commenced, he improved so that by the third day we considered him out of danger.

In my opinion, the vapo-cresolene was an important factor in the cure of these cases, as well as in whooping cough, having used it considerably in an epidemic, some years ago, with benefit.

I think we are prone to change medicines too often in all kinds of diseases, expecting too quick results, and not having patience to give a certain line of treatment a thorough trial. From experience, I find that cases of pneumonia, typhoid fever, and many other diseases, will do better (with rare exceptions) on a plan of treatment laid out during the first few days, than by daily changing medicines. By this I do not intend to convey the idea to use a stereotyped treatment in all cases, but a careful study of each case at the start, and then decide on a line of treatment, treating complications as they arise.—*Alkal. Clinic.*

University Examiners.—The following examiners for the Medical Faculty of the University of Toronto have been appointed: Anatomy, A. Primrose, M.B., C.M.; F. N. G. Starr, M.B.; therapeutics and materia medica, J. M. Macallum, B.A., M.D.; medicine, A. McPhedran, M.B.; surgery, G. A. Peters, M.B.; midwifery and gynecology, H. T. Machell, M.D.; pathology, J. A. Amyot, M.B.; hygiene, W. Oldright, M.A., M.D.; medical jurisprudence, B. Spencer, M.D.; medical psychology, N. H. Beemer; chemistry, Dr. Lang; physics, G. R. Anderson, M.A.; physiology, embryology, and histology, R. R. Bensley, B.A., M.B.; biology, J. Stafford, B.A., Ph.D.

The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,

ED. FOR.

69 BLOOR STREET EAST, TORONTO.

W. A. YOUNG, M.D., L.R.C.P. LOND.,

BUSINESS MANAGER.

145 COLLEGE STREET, TORONTO.

Surgery—BRUCE L. RIORDAN, M.D.C.M., McGill University; M.D. University of Toronto; Surgeon Toronto General Hospital; Surgeon Grand Trunk R.R.; Consulting Surgeon Toronto Home for Incurables; Pension Examiner United States Government; and F. N. G. STARR, M.B., Toronto, Associate Professor of Clinical Surgery, Lecturer and Demonstrator in Anatomy, Toronto University; Surgeon to the Out-Door Department Toronto General Hospital and Hospital for Sick Children.

Clinical Surgery—ALEX. PRIMROSE, M.B., C.M. Edinburgh University; Professor of Anatomy and Director of the Anatomical Department, Toronto University; Associate Professor of Clinical Surgery, Toronto University; Secretary Medical Faculty, Toronto University.

Orthopedic Surgery—B. E. MCKENZIE, B.A., M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Surgeon to the Out-Patient Department, Toronto General Hospital; Assistant Professor of Clinical Surgery, Ontario Medical College for Women; Member of the American Orthopedic Association; and H. P. H. GALLOWAY, M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Orthopedic Surgeon, Toronto Western Hospital; Member of the American Orthopedic Association.

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Surgical Pathology—T. H. MANLEY, M.D., New York, Visiting Surgeon to Harlem Hospital, Professor of Surgery, New York School of Clinical Medicine, New York, etc., etc.

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Medicine—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon Toronto General Hospital; and W. J. WILSON, M.D., Toronto, Physician Toronto Western Hospital.

Clinical Medicine—ALEXANDER McPHEDEAN, M.D., Professor of Medicine and Clinical Medicine Toronto University; Physician Toronto General Hospital, St. Michael's Hospital, and Victoria Hospital for Sick Children.

Mental Diseases—EZRA H. STAFFORD, M.D., Toronto, Resident Physician Toronto Asylum for the Insane.

Public Health and Hygiene—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon Toronto General Hospital; and E. H. ADAMS, M.D., Toronto.

Pharmacology and Therapeutics—A. J. HARRINGTON, M.D., M.R.C.S. Eng., Toronto.

Physiology—A. B. EADIE, M.D., Toronto, Professor of Physiology Woman's Medical College, Toronto.

Pediatrics—AUGUSTA STOWE GUILLEN, M.D., Toronto, Professor of Diseases of Children Woman's Medical College, Toronto.

Pathology—W. H. PEPLER, M.D., C.M., Trinity University; Pathologist Hospital for Sick Children, Toronto; Demonstrator of Pathology Trinity Medical College; Physician to Out-door Department Toronto General Hospital; Surgeon Canadian Pacific R.R., Toronto; and J. J. MACKENZIE, B.A., M.B., Professor of Pathology and Bacteriology, Toronto University Medical Faculty.

Ophthalmology and Otolaryngology—J. M. MACCALLUM, M.D., Toronto, Assistant Physician Toronto General Hospital; Oculist and Aurist Victoria Hospital for Sick Children, Toronto.

Address all Communications, Correspondence, Books, Matter Regarding Advertising, and make all Cheques, Drafts and Post-office Orders payable to "The Canadian Journal of Medicine and Surgery," 145 College St., Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the fifteenth of the month previous to publication.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the tenth of the preceding month.

VOL. IX.

TORONTO, APRIL, 1901.

NO. 4.

Editorials.

MODIFIED VIRULENCE IN VARIOLA.

IN a statistical table published in the Report of the Provincial Board of Health for 1899, it is shown that during that year 345 cases of small-pox occurred in this Province, with fourteen deaths, a mortality of 4.05 per cent. In a second table, showing the prevalence of small-pox in thirty-two States of America, as well as in the Provinces of New Brunswick and Quebec (Canada), from

December 29th, 1899, to February 9th, 1900, it is stated that there were 3,036 cases of small-pox and 123 deaths, a mortality of 4.05 per cent. Now, these are low death rates for small-pox, a disease in which the mortality has been computed to be between 15 and 30 per cent. Besides, these low death rates are all the more significant of a great modification of virulence in the disease, when we find that the outbreaks noted in these statistics occurred during the winter and autumn quarters as well as during summer, and that the incidence of the disease was noted in Louisiana and Alabama, as well as in Ohio, Michigan, New Brunswick and Quebec. The small-pox epidemic at present prevailing in Ontario, appears to be of the same mild type as those referred to in the above mentioned tables. Since the beginning of the outbreak at Sault Ste. Marie in December, 1900, up to March 8th, 1901, there have been 131 cases and two deaths, or a mortality of 1.5 per cent. (*vide* p. 255).

Severe, confluent forms are occasionally noticed. Thus Dr. Sheard, Medical Health Officer, Toronto, informed the writer recently, that in his second case, a man who had probably caught the infection at Sudbury, the facial eruption was confluent and the pustules very large. Fortunately he has recovered. The three other cases in Toronto were mild in type and the patients have recovered.

Mr. D. W. Cantlon, Sudbury, in a letter published in the *Globe*, March 9th, writes: "It is a disputed question as to whether the disease is really small-pox or not. At all events, if small-pox, it is of an exceedingly mild type, none of those affected being at all sick or unable to attend to their usual avocations were they permitted to do so." Mr. W. M. Brodie, reeve of Massey Station, published a letter in the same paper on the same date, in which the following appears: "The cases seem to be of a very mild nature, and though no less than nine have been afflicted and treated, no deaths have occurred."

In the opinion of Dr. Hodgetts, Inspector of the Provincial Board of Health, who has been placed in charge of the outbreak at Sudbury, there is no doubt that the disease prevailing in that town is small-pox and not chicken-pox, and this opinion has been confirmed by Dr. Finley, of Montreal. Dr. Hodgetts states in a letter to the writer that he had seen up to March 12th, 1901, fifty cases of small-pox. As an evidence of the fact that the type of the disease was not due to the influence of vaccination, he writes: "Only in

one case could I find satisfactory evidence of successful vaccination, and in this case the disease was modified."

He further says: "The cases have been almost entirely amongst male adults (shantymen) in whom chicken-pox is rarely, one may almost say, never, found. In every case, close inquiry leads to the fact, that in the camp some one came in with 'scabs' on him, or else was taken ill with 'grippe' shortly after arrival."

Dr. W. M. Welch, of Philadelphia, reporting to the State Board of Health of Pennsylvania, August 5th, 1899, describes a mild form of variola, which prevailed in that State, and which was thought to have been brought into the United States in 1898 by volunteers returning from the Cuban war. Criticising a theory advanced to explain its modified virulence, he writes: "In explanation of the mild type of the infection, it has been suggested that small-pox in the tropics is less severe than in a cold climate. I am not sure that this is true; but, even if it is, I see no reason why the disease should not assume its old and familiar form, when the infection is conveyed to the Middle and Northern States; but up to the present time it has shown no such tendency. What it will do when cold weather sets in, remains to be seen."

That the type of small-pox at present observed in Ontario is not made virulent by cold weather is evident, since mild cases have been largely in the majority, in fact those principally observed at Sudbury, Massey Station, Toronto, and elsewhere in the Province, during January, February and March when the weather is very severe.

Referring to another important feature of the disease as noted in Pennsylvania, Dr. Welch writes: "Those familiar with small-pox will recognize in the description I have given a clinical picture of mild varioloid: and yet it must be remembered that in nearly all the cases which have come under observation there was no known modifying influence operating, such as results from vaccination or a previous attack of the disease. Why small-pox in the unvaccinated should present itself so generally in the present exceptionally mild form is a question I shall not undertake to answer."

In this latter statement Dr. Welch's view coincides with that expressed by Dr. Hodgetts—that the mild form of the disease had not been caused by previous vaccination. The epidemic described by Dr. Welch prevailed largely among negroes and was known as "Cuban Itch," "Elephant's Itch," and "The Bumps." It seems reasonable to believe, therefore, that during

the autumn of 1898, the year when the American volunteers returned from the Cuban war, a peculiar type of modified small-pox was introduced from Cuba into the United States, that this disease passing from the Southern to the Northern States reached Canada in 1899, and is at present epidemic in northern Ontario. Severe cases are occasionally noticed, although the greater number are not dangerously affected and the mortality is, as already stated, small. By referring to the illustrations in a circular published recently by the Provincial Board of Health, a copy of which appears at page 248 of this issue, readers may convince themselves that it is sometimes severe.

To explain the reason why in this form of small-pox the disease is robbed of its usual virulence, even in cold weather, and even when the patients have not been protected by vaccination, would call for the combined work of the clinician and the bacteriologist. Perhaps even after careful study it may be found impossible to explain the anomaly.

It is sufficient for the medical men of Ontario to know that this disease is really small-pox, though it may look like chicken-pox, that it breeds true, and that it will become more pronounced in type and will spread unless they promptly isolate, vaccinate and quarantine.

J. J. C.

THE INSPECTION OF COW-BYRES BY THE CITY HEALTH DEPARTMENT.

IN a few instances (about eighty) Toronto householders keep one or two cows, the superfluous milk being generally sold to customers. Their stables are regularly inspected by the civic health department, and the condition of the cows noted. The city water supply and ice supply being used and perfect cleanliness being observed in these cow-byres, they are not likely to become the seats of infectious disease.

The inspection of rural dairies is more difficult, on account of their number and the extensive area to be covered by the inspector. His work is, however, of considerable importance, because infectious diseases, such as diphtheria and typhoid fever, have sometimes been traced to rural dairies, and moreover, the power to inspect these dairies and control, for cause, their commercial output is found to act as an effective method of improving their sanitary standard. The inspector's report, which we have been

permitted to peruse through the courtesy of Dr. Sheard, shows that 441 rural dairies are engaged in supplying milk to Toronto. These dairies contained 5,748 cows, yielding 9,066 gallons of milk per diem.

Under the head of condition the byres might be classified as follows: 290 good, 61 bad, and 90 indifferent. Bad cow stables include such as are dirty, wet and badly drained, too small and deficient in ventilation, or stables in which pigs are kept at the same time. The existence of some one of the above mentioned defects or the absence of bedding is a reason for classifying a byre as indifferent.

Under the head of general condition of the cattle, in 277 byres the cattle are classed as "clean and good grade." In 90 byres, some of the cattle are said to be "dirty or with dirty flanks." In 66 byres they are classed as "dirty" or "dirty and thin" and of two byres no report is given.

The water supply of a dairy is of capital importance. There were 338 good wells, 1 bad well and 18 indifferent wells, 23 supplies from creeks, 48 from springs, 4 from city water-works, 1 from the river Don, 1 from a pond, 1 from a rainwater cistern and 2 supplies were got by haulage, the source not being mentioned.

The ice supply of a dairy is not of so much importance as the water, the former commodity being used in dairies for cooling purposes only and therefore is not so likely to find its way into the milk as well water, which is used for washing cans and other milk utensils. However, the report shows that in 11 dairies ice was got from the city, in 122 from river or creek, in 130 from ponds, spring-fed ponds and in a few instances from dams. In 173 dairies no ice was used and in 3 the supply was not mentioned.

The feed of the cows in every stable is mentioned, and this part of the report reveals some very instructive data. For instance, in a dairy where the cattle are described as "extra grade, good, large and clean," the feed consisted of straw, hay, peas and oats, ground turnips and mangels. Evidently these cattle were scientifically fed. The cattle of a second byre are classified as "good grade, in good condition," their feed consisting of turnips, mangels, cut hay and straw, oats and barley meal, and sometimes bran and corn. This may also be classed as a scientific diet. The cattle in a third stable are classified as "grade, thin, but fairly clean," and their feed consisted of turnips, mangels, some apples, grains and oatmeal. In this third byre, the dairyman is evidently feeding his cattle to get

the milk product only; but he is starving the cows. In a fourth byre the cows are classified as "thin and not very good, 3 dirty," the feed consisting of corn, turnips, straw and some hay, and the conclusion as to the nutritive merits of the diet is practically the same as for the third stable. In a fifth byre the cattle are classified as "thin, but fairly clean and healthy," being fed on mangels, cut chaff and hay. In this byre the yield of milk is small; but the condition of the animals is fairly good. In a sixth stable the cows are classified as "low grade, lean as crows, fairly clean," the feed being cut straw, mixed meal and turnips, and we may conclude that the animals are not getting sufficient nourishment.

The contention of the Toronto Medical Health Officer is that he can refer to the report of his inspector and ascertain what was the condition of any one of these 441 dairies at the time of the annual inspection. Should diphtheria occur in a Toronto household, the name of the dairyman who supplied the family milkman is noted, and if the outbreak is not traced to some source of infection originating in the city, investigation can be pushed into the premises of the dairyman. Should the cause of the outbreak be located in the dairy, the milk producer is notified to send no more milk, and the city retailer is also notified of the facts and advised to stop taking milk from that dairy. Similarly, should a case of typhoid fever be noted in a city household, an investigation is made, and if the dairyman's water-supply is polluted, the use of the milk from his dairy ceases in the city. Hence, in their own interests, the dairymen supplying milk to the Toronto market are careful to keep their premises, byres, cattle, water supply, ice supply, and feed up to a proper standard. Instances occur, as we have shown, in which there is room for improvement in some one of these particulars; but, as time goes on, dairymen competing for the city milk trade will reach higher standards and conform to severer tests.

Observers agree that the physical condition of dairy cows and their environment before and during the act of milking should be of such a nature that their milk shall be clean and healthful. A cleanly condition of the animals, clean attendants, clean milking utensils with proper cooling and canning of the milk are the main requisites to secure a fair condition of the product. To really know the physical condition of the cows in a dairy, the cattle should be frequently inspected and the tuberculin test applied. Tuberculous cows should be removed from the herd and their milk declared

unmarketable. If a phthisical mother is not allowed to nurse her offspring, neither should the office of furnishing nourishment for it be allowed to devolve on a tuberculous dairy cow. J. J. C.

PROFESSOR EICHHORST'S VIEWS ON HYGIENE AND DIET IN TYPHOID CASES.

PROFESSOR EICHHORST, of Zurich, who publishes his views on the somewhat hackneyed subject of treatment in typhoid fever in *Therapeutische Monatshefte*, avows his disbelief in the efficacy of drugs; but, as his clinical experience has been gained in a hospital service of two thousand cases, with a mortality of only 5 per cent., he deserves to be listened to with attention.

He is careful in details. For instance, he judges that the physician is inattentive, and lacking in proper care, if the bed is so placed that the light falls directly on the patient's eyes. If the room is well lighted, he orders curtains to be placed on the windows. Two beds should be placed in the room, one for the use of the patient during the day, the other at night. The mattresses must be hard so as to prevent wrinkling of the bed sheets. The apartment used as a sick-room should be large and well ventilated. During summer the windows of the patient's apartment should be kept open and in winter ventilation may be secured by opening a window in an adjoining room, which communicates with the sick-room. Unnecessary furniture, carpets, etc., should be removed.

He uses a modification of the Brand method, that is to say, each patient gets a bath twice a day, one in the morning between eight and ten o'clock and another in the afternoon between four and six o'clock. The temperature of the bath is kept at 95° F. At the start, the patient remains in the bath fifteen minutes, increasing the time of immersion each day by five minutes until he spends half an hour in the bath. While the patient is in the bath, the attendant makes his bed, taking care to warm the sheets. After the patient leaves the bath his body is dried with warm towels, and a fresh night-shirt, which has been previously warmed, is put on. The bath-tub is placed beside the patient's bed.

The diet consists principally of milk. A litre of milk is boiled morning and evening, and placed on ice for the use of each patient. Every hour the patient gets 50 to 100 grams of the boiled milk (1 oz. 334 grs. to 3 oz., 230 grs.) Occasionally, to please patients, the milk

is mixed with tea, coffee or broth. To increase the nutritive value of the broth, in some cases, one or two perfectly fresh eggs may be added to it. Professor Eichhorst is opposed to the practice of adding somatose, extract of meat and similar preparations to milk or broth, as, in his experience, such mixtures make the patient loathe the milk or broth, even when they are quite pure. If the patient complains of thirst, pure fresh water is given.

Alcohol is rarely used. Eichhorst considers that it is a drug, and, as such, uses it to prevent heart failure or delirium tremens. In such cases, hot punch or hot wine is given. Three times a day the patient rinses his mouth with a 2½ per cent. solution of chlorate of potassium.

After the patient's temperature has remained normal for five days, milk gruel is given, and on the following day, if elevation of temperature does not supervene, meat is given. If fever reappears, the milk diet is resumed for three days more. Uncooked beef or mutton, which has been hashed or grated and seasoned with salt and a little pepper, is given. If neither of these meats is relished, grated ham or bologna sausage is given instead. On the first day the patient gets 50 grams of meat (1 oz. 334.16 grs.), on the second day 75 grams (2 oz. 282.47 grs.), on the third day 100 grams (3 oz. 230.7 grs.) If fever does not reappear, a purée of potatoes is given with the meat. Afterwards roast veal is substituted for the uncooked meat, the quantity of milk consumed being reduced in proportion to the amount of solid food used. Bread is also given, beginning with half a biscuit steeped in milk in the morning, and the other half, also steeped in milk, in the evening. Two daily baths are given during the first week of convalescence, and one bath only during the second week. As a typhoid patient, even after his recovery, continues to pass Eberth's bacilli in a virulent form, Eichhorst gives his enteric cases, during the last week of their stay in the hospital, one gram of salol three times a day.

Salol is the only medicine he uses during the course of a case of ordinary typhoid fever, and he does not attach much importance to it either, as, in his opinion, the cure of a typhoid case depends less on a medicament than on an intelligent application of hygiene.

J. J. C.

LICENSED BARBER SHOPS.

THE subject of the necessity, for decency's sake, of in some way regulating barber shops in Toronto so as to ensure their absolute cleanliness, has recently come under our notice. A young man, who never in his life had been disfigured by as much as a pimple, on any portion of his body, presented, shortly after visiting a strange barber shop recently, one of the worst and most typical specimens of *Tinea Sycosis*. His entire chin and neck presented the usual reddish concentric patches covered with dry fragile hairs and yellow scales or pustules, and altogether made a disgusting example of the real "barber's itch." That the trichophyton tonsurans was directly applied to his face from a dirty razor is almost certain, and there is little doubt that the sufferer has the best grounds in the world for an action for damages. A verdict for damages, even if the sum awarded were collected from the barber, is little consolation, however, owing to the suffering endured and disfiguration caused to his face (perhaps permanent). It might be suspected that this case was the outcome of the victim having been shaved at what one hears called occasionally a "five cent shop," where the process of lathering and shaving is performed all for the munificent sum of one nickle. In this instance it was not, but occurred in an ordinary "ten cent shop," where, as far as our patient knew, the razor and towel used appeared clean. The majority of Toronto barbers (we cannot state as to Hamilton) who have the slightest idea of building up and retaining a business, do keep their shops and utensils clean, and refuse to use their razor on a customer whose face appears at all suspicious. This cannot be said of all, however, and we think that our new Mayor, who in himself is the paragon of everything tending to personal appearance, should introduce before the City Council a by-law to appoint inspectors for, and regulate and issue licenses to, all barber shops in Toronto, so that only those whose premises were cleanly, and who adopted a system of, if necessary, having every razor sterilized after each shave, and whose brushes, combs and towels were kept absolutely spotless, could keep their shops open. We feel that, if such a measure were introduced, we would never hear of another case of *Tinea Sycosis* as the result of a dirty razor or unclean towel.

W. A. Y.

EDITORIAL NOTES.

The Ontario Medical Association.—The Ontario Medical Association convenes in Toronto on June 19th next and remains in session for two days. There will be Discussions upon Gastric Ulcer, Empyema and Extra-uterine Pregnancy. We urge upon all our friends in Ontario to rally round and make the 1901 meeting a big success in point of numbers.

The "Indian Lancet" as a Weekly.—The *Indian Lancet* (Calcutta), which made its first appearance as a monthly January 1st, 1892, and two years later was changed into a fortnightly, is issued as a weekly since January 1st, 1901, truly an evidence of rapid progress. Dr. Fernandez, the accomplished editor of the *Indian Lancet*, deserves to be congratulated on the success of his undertaking, which is alike a credit to himself and to the medical profession of India.

The Medical Alliance of America.—At the regular stated meeting of the Toronto Clinical Society held in St. George's Hall, Elm Street, Toronto, on the evening of March 6th, 1901, the following resolution was unanimously adopted: "That the Toronto Clinical Society is of the opinion that the prospectus sent forth by the so-called Medical Alliance of America, with headquarters in Montreal, is of such a character as to make it very undesirable that any member of the profession should be associated with the Alliance in any capacity whatever. It is further resolved that a copy of this resolution be published in the first issue of each of the Toronto medical journals."

Peroxide of Hydrogen in Diphtheria.—To cause the disappearance of the Klebs-Löffler bacilli from the throats of patients recovering from diphtheria, is, in some cases, very difficult. Maether (*Deutsche Militär-Arztliche Zeitschrift*, 1900, H. 5) recommends the simultaneous employment of two solutions as gargles; first a 1 per cent. solution of carbonate of ammonium to dissolve the buccal mucus, followed by a 10 per cent. solution of peroxide of hydrogen to kill the bacilli. If this treatment fails, Maether thinks the bacilli will be found in a deep tonsillar crypt, where they may be destroyed by local applications of the peroxide of hydrogen made with a slender probe, so as to reach to the bottom of the crypt.

Somnolency in Liver Disease.—Ever since Murchison's investigations, observers have noted the possibility of somnolence arising *ab hepate læso*; but this origin is considered rare and of little moment, except in extreme cases, such as coma or nareolysis. Gilbert and Castaigne, however, report to the Paris Society of Biology, October 27th, 1900, that simple somnolency is one of the commonest symptoms of some forms of cholemia, particularly angiocholitis and hypertrophic biliary cirrhosis. This somnolency is not due to hepatic insufficiency, as has been generally held, these observers having proved the contrary by a study of the chemistry of the biliary secretions of their patients. They think that the somnolence is due to a biliary intoxication, acting on a predisposed nervous system.

An Unenviable Privilege.—"The best place in Ontario to go to when you get small-pox is Toronto. Fine hospital accommodation, good doctors, splendid nursing and nothing to pay." Such is the advice given to a man with a suspicious facial eruption suggestive of variola. The action of the small municipality in regard to a small-pox suspect is mean and may be criminal. The isolation and subsequent management of such cases should be safe, practical and humane. At the start, it may be safely conceded that no health officer of a small municipality, who values his salary, no physician in the same place, who prizes the patronage of his fellow-townsmen, will, by act or part, saddle a small-pox case on the municipality. Hence it follows that a contraband trade in suspected small-pox cases will be winked at, the rule being the old one prevalent on April fools' day, "to hunt the gowk another mile." Toronto may, therefore, with the best grace possible, recognize her unenviable distinction and accept the varied contributions of variola, with the proviso, however, that the peccant municipality should be called on to pay the bill.

Proposed Bill for the Treatment of Inebriates.—In our February issue the attention of the Ontario profession was drawn to the proposed bill for the treatment of inebriates, an abstract of which we published. We endorsed the position of the promoters of the bill and recommended it to the cordial consideration of our confreres. The bill is now before the Legislature, and it is to be hoped that physicians who are in harmony with its objects will make their views known to their representatives. Physicians know more thoroughly than laymen the great evils entailed on a

family by the intemperance of a bread-winner. If the members of our profession, who wish to see some advance in the therapeutics of inebriety in Ontario and to help at the same time relieve the distress of many a sorrowing family, would take the trouble to call the attention of their representatives in the Legislature to this bill, it would go through this session. As the session will probably come to an end during the first week of this month, prompt action is necessary. A letter or a postal card from each physician to his representative in the Legislature, expressing a wish that the above mentioned bill may receive his support, will suffice.

Government Assistance for Toronto University.—A deputation representing the Alumni Association waited upon the Provincial Government on March 13th. The deputation numbered several hundred, and included a large number of manufacturing men as well as all the professions. They were met by Premier Ross, Hon. Mr. Latchford, Hon. E. J. Davis, Hon. J. R. Stratton and Hon. Mr. Harcourt in the reception room. The speakers were: Dr. R. A. Reeve, Toronto; Rev. James Allen, Toronto; P. W. Ellis, Toronto; Otto Klotz, Ottawa; James Chisholm, Hamilton; Rev. W. A. Bradley, Berlin; John Campbell, St. Thomas, and Hon. S. C. Biggs, Toronto. Hon. G. W. Ross declared that it would be hard to give a large amount to the university, particularly as there promised to be a falling off of some three or four hundred thousand dollars in next year's revenues. They were prepared to aid the university to the utmost of their ability, and could promise that legislation with that end in view would be brought down before the close of the present session. They would give as much as the finances would allow. The assistance, however, would be granted to the technical departments.

Salol in Diabetes.—In an article on diabetes, published in *La Presse Medicale* (February 2nd), Dr. Fiquet, of Paris, endorses Professor Bouchard's view, that diabetes mellitus is due to a nutritional defect, and that investigators need not seek for a lesion in an organ as the direct cause of diabetic coma. He accepts Professor Lepine's treatment of the disease, which consists in regulating the diet and the exhibition of alkalies. The action of alkalies, he says, is important, as they saturate the acids of the economy and facilitate oxidations as well as hydrations. Fiquet, however, prefers salol to salicylate of sodium in diabetes. The latter salt is rapidly absorbed and answers well, when an energetic

action of the medicine for a short period is required. Salol, on the contrary, thanks to the alkalinity and, perhaps, to the ferments of the intestine (pancreatic secretion and intestinal juices), is slowly decomposed, causing the appearance in the economy of small quantities of salicylic acid and phenol, which are given off in a continued manner. This explains the reason why salol can be given in large doses without causing untoward results. Fiquet says that salol may be administered in diabetic coma in doses amounting to from four to six grams per diem (61.72 to 92.39 grs.).

Canadian Medical Association.—The following letter from Dr. Starr, General Secretary of the Canadian Medical Association, will prove interesting reading this month. We do trust that his hopes as to the 1901 meeting being the banner one, will be fully realized :

DEAR SIR,—The first meeting in the new century will take place at Winnipeg, on August 28th, 29th, 30th and 31st next, and from present prospects it will be a record-breaker, in that large numbers from the East are so arranging their holiday trip as to make Winnipeg the trysting-place in August, while the men from the West are a unit in their enthusiasm to make this Western meeting the best the Association has held.

The "Address in Medicine," will be delivered by Dr. J. R. Jones, of Winnipeg, and the one in Surgery by Mr. O. M. Jones, F.R.C.S.(Eng.), of Vancouver, B.C. An evening will be devoted to a discussion on Tuberculosis, and another evening to some surgical topic. An extensive pathological exhibit will be an interesting feature as well.

By way of entertainment an excursion to Fort Garry, and on Saturday, August 31st, a trip to Brandon, with a luncheon, returning through Southern Manitoba, will be arranged.

At present I am not in a position to state what the Railways will do for us, but from negotiations now going on I can safely promise a rate so cheap that no one can afford to stay away. This in itself should insure a large and representative gathering.

Our friends in the West want to meet their brethren from the East, and those of us from the East should see to it that they are not disappointed.

Yours, faithfully,

F. N. G. STARR.

The Scientific Study of Psychiatry.—A committee of the New York Neurological Society has suggested a scheme of scientific study of mental diseases in connection with the State hospitals for the insane. Their report recommends a central laboratory for original research in psychiatry, combining the labors of pathologists, neuropathologists, psychologists, chemists, anthropologists, etc. It is urged that the central laboratory should be open to

unqualified scientists for the prosecution of original research, under the direction of the laboratory experts, preference being given to the qualified men in the State hospitals; but that no systematic teaching of fundamental principles should be required from any of the departments. The central laboratory should be a part of a reception hospital for the insane situated on Manhattan Island. It is further recommended that each asylum should have upon its staff of officers one whose sole duty it should be to perform necropsies and carry on the routine duties of a clinical and pathological microscopist. This scheme is an excellent one to encourage the scientific study of mental disease, and has, therefore, much to recommend it, for the most hopeful way of diminishing insanity is to obtain accurate knowledge of the causes which tend to produce it. If the Provincial Government were to appoint a few pathologists, whose duty it should be to perform necropsies in the asylums of Ontario, doing in addition such microscopic work as would be necessary, a marked scientific advance in the study of insanity would be made.

DRS. Crawford Scadding and J. J. McKenzie leave this month for England.

DR. FOTHERINGHAM, A.M.S., has obtained leave of absence for the next three months.

DR. JAS. M. MACCALLUM has been appointed Ophthalmologist, Otologist and Aurist to St. Michael's Hospital, *vice* Dr. Rosebrugh, resigned.

DR. LEONARD VAUX, who was with the first African contingent, intends returning to that country and will connect himself with the new African constabulary.

WE beg to tender to Dr. G. B. Smith of this city our heartiest sympathy in his sad bereavement. The profession will regret to learn that Mrs. Smith died unexpectedly on the 18th ultimo.

DR. HERBERT BRUCE has purchased No. 64 Bloor Street East, and will move in shortly. We take it that we will soon have the pleasure of congratulating the Doctor upon another important event in his career, and that "Bruce ——" will appear one of those days among the marriage announcements.

DR. THOS. P. WEIR, at one time on the staff of Toronto Asylum, and who practised in Toronto for some years after, is comfortably settled as Surgeon to Atikokan Hospital on the Ontario & R. R. Railway. Dr. Weir is also surgeon to that road, and writes us to say that his health is fine, that he is doing nicely, and that he reads the JOURNAL with pleasure every month.

Obituary.

DR. JOHN DUFF MACDONALD.

THE brief chronicle in the daily press of the death of Dr. Macdonald, of Hamilton, on March 10th, will have recalled to the members of our medical societies of twenty years ago the dignified form of one who, in his active years of medical life, was one of the most honored members of the profession in Canada. Since those years Dr. Macdonald has been less known outside the circle of the profession of his own city; but there in the position of chief Medical Referee of the Canada Life Assurance Company and in the work of the Provincial Board of Health his activities were maintained up to the great age of eighty years and to within a year of his lamented death. The life of Dr. Macdonald, along with that of several cotemporaries, presents a type of the professional man, developed under the influences of the early years of last century, which has now largely passed away. His education was obtained at a time when medicine was emerging from the many *isms* of the pre-scientific period and was being influenced by the discoveries in physics and chemistry which supplied the basis of scientific exactness, which only required the discoveries of modern pathology and bacteriology to place it upon a plane with the other exact sciences of the present day. Naturally where text-books might still be found written in Latin, the physician of those early days was necessarily a scholar of the "Humanities," and further because a student of the several sciences which went to make a liberal education. Such a cultivated scholar was found in Dr. Macdonald, who to the last years of his long life was a keen student, not only in the paths of medical science but in the yet wider field of general literature. But not alone was Dr. Macdonald a student: he was still more—a philosophical thinker, and as late as in his last annual address as chairman of the Provincial Board of Health in 1900, his mind showed that mature thought and comprehensive grasp, which only come with wide culture. The experience of Dr. Macdonald of the many phases of life was great. The son of a naval officer who had fought under Nelson and of a daughter of the Scotch manse, his youthful mind was naturally imbued with

high ideals of honor and duty; while a high sense of personal responsibility was developed during several years of service as a surgeon in Her Majesty's navy. With such equipment and the race pride of one whose ancestors had gone forth in the '45 to fight for Prince Charlie, he came to Canada and began the practice of his profession in Perth, experiencing all the rugged work incident to a country practice in a new settlement. Marrying the daughter of Judge Malloch, of Brockville, he shortly after moved, in 1854, to Hamilton, had much experience in the severe cholera epidemic there in that year, and, endowed with magnificent physique, developed rapidly into one of the leading practitioners of that old city. His name became there a household word, and in the homes of the poor and in the mansions of the rich he illustrated the highest traits of a practitioner when medicine was deemed in the truest sense a profession. But Dr. Macdonald was too great a man to have his activities limited to the mere practice of medicine. A keen student and liberal-minded citizen, he held very decided views in public matters and municipal affairs. With the spirit of his race and with intense convictions, he was ever ready, whether in church or state affairs to raise his voice for what he believed to be right and in the interests of the community. None who ever listened to him could forget how in dignified language and in the choicest classical English he set forth his arguments, warming to his subject with Celtic fervor, but never forgetting for a moment that he was a gentleman. Such a man, and such a gentleman, gave a tone to the profession, not alone of his own city but in whatever medical circle he chanced to move. But his whole life breathed a yet wider sympathy, for he was a Christian gentleman. Nurtured during the stirring times of church controversy preceding the Disruption in 1843 of the Church of Scotland, he was an ardent member of the Church of his forefathers, and for many years was actively associated with the Foreign Mission Committee, where his wide experience and knowledge of men, obtained from the medical rather than clerical side, gave to his opinions more than ordinary weight. How such wide-spread activities serve to keep an old man young may be seen in the pathetic incident told recently by his pastor, that he had found him one evening at eighty years reading the Greek Scriptures, preparing his lesson for the following Sabbath, when he was to teach his class of girls in the Sunday-school. For some nine months Dr. Macdonald had declined in health, latterly suffering much from angina, but still until shortly before his death

was able to enjoy some hours daily in his invalid chair. He leaves his widow and three daughters with grandchildren to mourn his loss. He had again and again said that his work was ended ; and surely could in the words of Tennyson's " King Arthur " say :

" I have lived my life, and that which I have done
May He within himself make pure ! "

DR. C. E. MARTIN.

DR. C. E. MARTIN, of Toronto, who died at Whatecom, Wash., on March 11th, was sixty-nine years of age, and for the last twenty-five years practised his profession at his late residence, 110 Carlton Street. He went west about four weeks ago for the benefit of his health. He leaves a widow and a grown-up family. Three sons are practising physicians of Seattle, Wash., one daughter, Miss Ethel, is a distinguished operatic singer in London, Eng., and Mrs. (Dr.) Norman Allan, of Carlton Street, is another daughter.

Dr. Martin was a graduate of the old Rolph School of Medicine. He served as surgeon in Gen. Sheridan's cavalry throughout the American civil war, receiving a special badge from the General. His early professional life was spent in Lindsay, where he was offered the Liberal nomination for the Commons. Later he practised in Oshawa, and from there came to Toronto. He was a strong personal friend of the late Hon. George Brown, was honorary surgeon for St. George's Society from the time of its inception in Toronto, and was a prominent member of St. Peter's Church.

WE wish to tender to Dr. and Mrs. Arthur Jukes Johnson of this city our sincerest sympathy in the death of their dear little daughter a few weeks ago. She had reached the age when her loss is most keenly felt, and we feel sure that the profession as a whole sympathize with the Doctor in his bereavement.

Dr. Smith Dead.—Dr. Mayo G. Smith, the companion and friend of Mark Twain and inspiration of the novelist's " Doctor," " Innocents Abroad," is dead at Colorado Springs. Dr. Smith was born in Newburyport, Mass., August 19th, 1816. He was one of the first graduates of Oberlin College, and was an intimate friend of Horace Greeley, starting life as a preacher and later as the reporter employed by Greeley on the *Tribune*. He went to California in 1849, joined the regular army; later became rich and travelled with Mark Twain.—*Philadelphia Medical Journal*.

Items of Interest.

Dr. Francis R. Packard has assumed the editorship of the *American Journal of the Medical Sciences*, to succeed Dr. Alfred Stengel, resigned.—*Jour. of American Medical Association*.

British Congress of Tuberculosis.—At the British Congress on Tuberculosis, to be held in London in July, we are promised three public addresses by such eminent authorities as Prof. Robt. Koch, of Berlin, Prof. Brouardel, of Paris, and Prof. McFadyean, of London.

Medical Health Officer, City of London.—The following is an official list of candidates for the position of Medical Officer of Health for the City of London, rendered vacant by the death of Dr. W. Sedgwick Saunders: Dr. W. A. Bond, Dr. Collingridge, Dr. W. H. Corfield, Dr. Dudfield, Dr. B. Rygate, Dr. W. R. Smith; and Dr. F. J. Waldo.—*Medical Press and Circular*.

Vienna and Medical Societies.—It seems that Vienna is not properly represented yet, as another medical society has been instituted to represent the general practitioner. The name assumed is a comprehensive one, being the “Freie Vereinigung der Praktischen Aerzte Wiens.” Its avowed objects are the careful consideration of the interests of the profession and of the inabilities under which medical men suffer.—*Medical Press and Circular*.

A Prize for the Best Essay on the Dangers of Quackery.—The Colorado State Medical Society offers for the best essay on the dangers from quackery a prize of twenty-five dollars.—*New York Medical Journal*.

A Loss to Science.—The Pathological Institute at Berlin was no doubt known to the whole scientific world, for it contained the wonderful Virchow collection; but a fire broke out recently and destroyed the entire collection, among which were documents, etc., of universal interest.—*Medical Record*.

Dr. Osler Visits Philadelphia.—Dr. William Osler, of Johns Hopkins University, addressed the students of Jefferson Medical

College, Monday evening, March 4th, on the philosophy of the "Power of Sympathy." The discovery of the old chemist was alluded to and then reference was made to the power of suggestion in modern medicine. Following the address, Dr. Osler was the guest of honor at the annual banquet of the Hare Medical Society. —*Medical News*.

Special Ophthalmic Number of the "Indian Medical Gazette."

—In the January number of the *Indian Medical Gazette* it is announced that a special Ophthalmic Number will be issued in a few months. Everything will be done to make this forthcoming number representative of ophthalmic surgery in India at the present day, and circulars have been sent by the editor to ophthalmic surgeons throughout India inviting information on points of interest in connection with diseases of the eye and its appendages, and especially on the subjects of cataract, trachoma, and errors of refraction. The replies to these circulars are to be addressed to Major W. J. Buchanan, I.M.S., Editor *Indian Medical Gazette*, Bhagalpur, E. I. Railway, or to the Editor, *Indian Medical Gazette*, care of Messrs. Thacker, Spink & Co., Calcutta.—*Lancet*.

Every Disease has Its Odor.—Dr. McCassy declares that every doctor should be able to diagnose measles, diphtheria, typhoid fever, consumption, and even epilepsy, by the smell, as every one has an especial odor when disease is present. Thus in case of favus, the patient exhales the odor of mice; in rheumatism, there is an odor of acid that is very easily recognized. In cases of pyemia, the breath is nauseating in its smell; in scurvy, too, there is a putrid odor. In peritonitis, the odor is like musk; in case of scrofula, like sour beer. In ordinary fever there is an ammoniacal odor. In intermittent fever, the odor is like that of fresh baked bread. Among hysterical women there are many delightful odors, violet and pineapple being the most manifest.—*Doctor's Magazine*.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent medical men are announced: Dr. Hermann Pfeiffer of Darmstadt, formerly director of the hospital there and author of many memoirs on Hygiene. He was 71 years of age. Dr. R. B. Cole, Professor of Midwifery and Gynecology in the University of California, San Francisco. Dr. H. Shapiro, Pro-

fessor of Medical Diagnosis in Helena Pavlona Clinical Institute, St. Petersburg. Dr. Augusto da Rocha, Professor of Clinical Medicine in the University of Coimbra, Portugal. Dr. Leopold Weiss, Professor of Ophthalmology in Heidelberg. Dr. Theodor Husemann, Professor of Pharmacology in the University of Göttingen, at the age of 67 years. He was a voluminous contributor to medical literature. Dr. Julius Homann, of Hamburg, one of the Assistants in the Kiel Hygiene Institute, has died from enteric fever, which he contracted while engaged in the study of pure cultures of virulent typhoid bacilli.—*Lancet*.

Creasote in Pneumonia.—In a paper read before the Central Texas Medical Association, Dr. J. L. Van Zandt drew attention to the advantages to be obtained by the use of creasote, or preferably creasotal in pneumonia. After giving his own experience, which he said was satisfactory, Dr. Van Zandt quoted several passages from the writings of other physicians, all speaking highly of this method of treatment. Dr. Van Zandt spoke in enthusiastic terms of the results he had obtained. At first he gave one drop of the drug every three hours, but latterly he had prescribed seven and a-half minims of creasotal. This appears to be a large dose, but he states that "others give larger doses with possibly better results or no harm." He adds: "I have had cases in which the fever was gone in from 24 to 48 hours, and I am now somewhat disappointed if my patient is not ready for dismissal by the third or fourth day." In conclusion, Dr. Van Zandt expresses his opinion "that the use of creasote or carbonate of creasote in the treatment of pulmonary inflammation is one of the greatest life-saving discoveries of the century just ended."—*Lancet*.

Medical Appointments to the King.—The King has appointed Lord Lister to be Sergeant-Surgeon-in-Ordinary to His Majesty and Sir William MacCormac, Bart., K.C.V.O., and Sir Thomas Smith, Bart., Honorary Sergeant-Surgeons to His Majesty. We are glad that His Majesty has decided not to allow these historic appointments to fall into desuetude. The following appointments have also been made: To be Honorary Physicians—Dr. D. McEwan, Inspector-General (retired); Sir James J. L. Donnet, K.C.B., Inspector-General of Hospitals and Fleets; Sir John Watt Reid, K.C.B., Director-General of the Medical Department of the Navy (retired); Dr. A. B. Messer, Inspector-General of Hospitals

and Fleets (retired); Dr. H. C. Woods, M.V.O., Inspector-General of Hospitals and Fleets. To be Honorary Surgeons—Sir James Jenkins, K.C.B., Inspector-General of Hospitals and Fleets; Timotheus J. Haran, Inspector-General of Hospitals and Fleets; Sir James N. Dick, K.C.B., Director-General of Medical Department of the Navy (retired); Dr. William H. Lloyd, Inspector-General of Hospitals and Fleets; and Dr. Alfred G. Delmege, M.V.O., Deputy Inspector-General of Hospitals and Fleets.—*Lancet*.

Extraordinary Fraud of a Medical Student—Obtaining His Own Death Certificate.—"I am the dead body," said Mr. William Browning, described as a Dublin medical student, when arrested on a most extraordinary charge of fraudulently obtaining a death certificate. He was living in lodgings in London and complained of serious illness, took to his bed, and sent a note to a doctor asking to be attended. He described symptoms pointing to Bright's disease. His temperature was high, and there seemed no doubt that he was seriously ill. The doctor attended and sent medicine regularly. One evening the patient gave out that he was much worse and had sent for his brother. On the following morning he shaved off his moustache, made other alterations in his appearance, and proceeded to the doctor's office, where he asked for a certificate of "his brother's" death. In answer to the usual questions he said he was present at the death and described the manner in which his brother had died, the details being precisely those which would be expected in Bright's disease. As the nearest relative he was therefore given the certificate. The doctor at the time noticed the close resemblance which the man bore to his alleged brother. So far all went well, but as the doctor made it a custom to see the dead bodies of his patients he proceeded to the house. The room was closed, but after some delay a key was found and he effected an entrance. The room was in darkness, but on the bed he could see the dim outlines of what appeared to be a corpse. The head was wrapped in a pillow-case, which struck the doctor as strange. On pulling the covering he found that there was no head at all! Then, on turning back the sheet he found that the "body" was composed of a couple of blankets. The doctor at once summoned a policeman. On searching the prisoner's box a life policy for \$1,000 was found. He alleged that his sole motive was to make his people believe that he was dead.

The Physician's Library.

BOOK REVIEWS.

The American Year-Book of Medicine and Surgery for 1901. A Yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from journals, monographs, and text-books, of the leading American and foreign authors and investigators. Arranged with critical editorial comments, by eminent American specialists, under the general editorial charge of GEO. M. GOULD, M.D. In two volumes—Volume I, including "General Medicine," octavo, 681 pages, illustrated; Volume II, "General Surgery," octavo, 610 pages, illustrated. Philadelphia and London: W. B. Saunders & Co. 1901. Per volume: Cloth, \$3.00 net; half morocco, \$3.75 net. Canadian Agents, J. A. Carveth & Co., Toronto.

It is evident that our friends, W. B. Saunders & Co., found that the publication of "The American Year-Book of Medicine and Surgery" in two separate and distinct volumes met with the approval of their clientele, the medical profession of America, as we see that they have adopted the same plan for 1901. We took the opportunity of stating, when reviewing this work for 1900, that the idea was indeed a good one, as in many cases the book would be purchased by some who took an interest in either Medicine or Surgery, but did not care to pay for what was to them of little interest, if they were able as now to buy what they wanted but no more. On the other hand, it is self-evident that the publication of the year-book in two volumes is also of considerable advantage as well to the general practitioner, as it enables him the more readily to refer to his subject without searching through what might be a more ponderous volume. We find, among the list of contributors this year, such names as Dr. S. W. Abbott, of Boston, Dr. Louis A. Duhring, Dr. Louis Starr and Dr. Alfred Stengel, of Philadelphia, Dr. Archibald Church, of Chicago, and our own talented confrere, Dr. Wyatt Johnston, of Montreal. The only change on the editorial staff this year is that the name of Dr. A. O. J. Kelly is coupled with Dr. Riesman in the section devoted to Pathology.

We take it that it is owing to lack of room only that friend Wyatt Johnston has devoted only a short 17 pages to his department of Legal Medicine. We would have liked to have been able to read at least 50 pages from his gifted pen. We read with considerable interest the section on Nervous and Mental Diseases by Dr. Archibald Church, of Chicago. His section with splendid illustrations, on the subject of symmetric adenolipomatosis, is very interesting. He states that Launois and Bensaude under this title contributed last year some articles on the subject of multiple symmetric fatty deposits unattended by general symptoms of illness or physical disorder. These local masses of fatty tissue seem to enjoy an individuality, preserving their volume during conditions under which the patients generally become cachectic and even in the presence of considerable emaciation secondary to tuberculosis, Bright's disease, etc. The disease usually makes its appearance after twenty years, and is much more common among men than among women.

Under the section on Materia Medica, Experimental Therapeutics and Pharmacology by Drs. Reynold W. Wilcox, of New York, and A. A. Stevens, of Philadelphia, we see that, in considering Antitoxin of Diphtheria, the writers speak in no uncertain manner of this method of treatment. Siegert quotes statistics of 42,000 cases of diphtheria (not requiring operation) collected from 79 hospitals

in Germany, Austria, Hungary and Switzerland. Of these cases, the average mortality percentage of the four years preceding the use of antitoxin (1890-94) was 41.4, while the average mortality percentage for the four years succeeding the use of antitoxin ('94-'98) was 16.5. From his series of comparisons the author draws the striking conclusion that of 40 ordinary cases of diphtheria which would die under other modes of treatment, 25 are surely saved by antitoxin. In view of these facts, he argues that it is impossible to hold guiltless the physician who fails to employ this powerful weapon in combating so dangerous a disease.

In the volume devoted to Surgery, we find that General Surgery is from the pen of Drs. W. W. Keen and J. Chalmers DaCosta; Obstetrics that of Drs. B. C. Hirst and W. A. Newman Dorland; Gynecology, Drs. J. Montgomery Baldy and Dorland; Orthopedic Surgery, Drs. V. P. Gibney and J. H. Waterman; Ophthalmology, Drs. H. F. Hansell and W. Reber; Otology, Dr. C. H. Burnett; Diseases of the Nose and Larynx, Drs. E. Fletcher Ingals and H. G. Ohls; and the subject of Anatomy, Dr. C. A. Hamann, of Cleveland, O. W. A. V.

Encyclopedia Medica. Under the general editorship of CHALMERS WATSON, M.B., M.R.C.P.E. Vol. IV., Foot to Hernia. Edinburgh: William Green & Sons. 1900.

This volume is quite up to the standard of the three preceding ones which have already been noticed. Much care has been taken by the writers of the various articles to bring them up to a high standard, and although they are necessarily condensed they are clear and safe. Of the arrangement of the matter we have to observe again that it would apparently have been much more convenient if all the articles bearing on one organ had been placed together in one volume and the cross references given in alphabetical order. The treatment of heart disease, for example, seems quite incomplete without the so-called Schott methods being discussed.

Of the longer articles in this volume those on the heart are specially worthy of mention. It is highly commendable that diseases of the myocardium are given equal prominence with those of the endocardium, and not, as is usually the case, treated of in a small sub-section. It is too often lost sight of that in the great majority of cases of heart disease the symptoms are due to myocardial rather than to endocardial disease, yet how often it is that murmurs receive sole consideration. Kelynack writes the pathological and Graham Steele the clinical section of this part.

H. D. Rolleston writes an excellent article on Hematemesis. It seems an error, however, to recommend such compounds as *Ruspini's styptic*, the composition of which is not generally known.

The article on the gall-bladder and bile-ducts by Mayo Robsen and Farquhar Macrae is very good, as is also that on gout, by the editor.

In the excellent article on Hemoptysis, by R. Murray Leslie, one could wish that the use of ergot were more strongly condemned. The only beneficial effect it can have is in gratifying the patient through his belief that a potent remedy is being used. The beneficial effects of astringents in general are rightly called in question; it is doubtful if they have any influence on the bleeding. The use of morphine hypodermically is strongly recommended, it is the most potent remedy at our disposal.

Nothing is said of calcium chloride; it should be of as much use in this as in other hemorrhages. Nor is there any reference to collapsing the bleeding lung by the introduction of nitrogen gas or air into the pleural cavity.

Among other valuable contributions may be mentioned those on Fractures, by D'Arcy Power; Gastro-Intestinal Disorders of Infancy, by G. F. Still; Glandular Fever, by Dawson Williams; Glaucoma, by Priestley Smith; Glycosuria, by R. T. Williamson; Hemaglobinuria, by A. E. Garrod; Hay Fever, by Greville MacDonald; Headache, by James Ritchie, and Hemiplegia, by James Taylor.

It is to be regretted that the several articles are unsigned, especially as they are written in the first person. The book is creditable to the publishers, being well printed on heavy paper.

A. M'P.

A Contribution to the Study of the Blood and Blood-pressure. Founded on portions of the Croonian Lectures delivered before the Royal College of Physicians, London, 1896, with considerable extensions. By GEORGE OLIVER, M.D., F.R.C.P. (Lond.). London: H. K. Lewis, 136 Gower Street, W.C. 1901.

This is another effort to solve, by experimental methods, some of the problems connected with the blood and its circulation. The blood of a large number of healthy subjects was examined with a view to ascertain the influence of age and sex, and to determine the effects of exercise, of rest, of digestion, and of other physiological causes of variation in the proportion of the corpuscles and hemoglobin.

In the first chapter the hemoglobinometer and the hemocytometer are described, and the principles of their construction and use are explained. The author very candidly points out some of the difficulties he met in experimenting with these instruments, and indicates how some of these difficulties were overcome.

Experiments were made to determine the normal variations in the hemoglobin and the corpuscles, and these are described in the second and third chapters. The author states that no less than 40,000 observations were made with the object of determining the physiological and clinical variations in the chromocytes and hemoglobin. The results of these observations show that exercise in healthy subjects leads to an increase of hemoglobin, but in extreme degrees of anemia active exercise diminishes the amount of hemoglobin, while with complete rest in anemia the amount of hemoglobin is rapidly increased.

The remaining chapters are devoted to a study of the circulation by means of various instruments. The author states that the physician in his daily work has not been able to derive much assistance from knowledge obtained in the laboratory regarding variations in blood-pressure and from other features of the circulation. The reason for this lies in the fact that we have not had suitable and reliable apparatus for making proper clinical observations. Instruments, which have been devised with a view to overcome these obstacles, are described and their clinical uses are explained.

This book is a distinct gain to our store of knowledge relating to physiology. The author has tried, by careful experiments and observations, to reach conclusions that will prove to be of practical value to the general practitioner in his daily work.

A. E.

Traité Pratique des Déviations de la Colonne Vertébrale. Par P. REDARD, Ancien Chef de Clinique Chirurgicale de la Faculté de Médecine de Paris; Chirurgien en Chef du Dispensaire Furtado-Heine; Membre Correspondant de l'American Orthopedic Association. Paris: Masson et Cie., éditeurs, 120 Boulevard Saint-Germain.

I have read this work with the deepest interest; it is the best presentation of the subject which has been made. Like most monographs it is written by a man who gives of his abundance, who puts down what he knows because he has a practical acquaintance with his subject.

The first part of his book discusses antero-posterior pathological deviations of the spine. In pathology and pathological anatomy he could not expect to give much that is new. His discussion of treatment is masterly. As a Frenchman he gives prominence to Calot's method of forcible correction of the deformity in Pott's disease. While on the one hand it must be claimed that he makes out a much more favorable case for that method of treatment than English or American surgeons are willing to admit; yet it must also in fairness be said that he does not write as a partisan but as a surgeon who maintains a strictly judicious attitude. He himself has had large experience, having operated upon 120 cases without death or serious accident. He considers the method of treatment of forcible redressment and maintenance of the improved attitude a marked therapeutic advance.

The second part deals with roto-lateral deviations. His presentation of the

subject is fair and thorough, his treatment modern. He writes with commendable discernment. In therapeutics he gives the first place to forcible mechanical correction and gymnastic exercises. He is right in his statement that the repetition of certain movements and the retention of the attitude which is the reverse of the habitual one, will correct curvatures and arrest the progress of osseous deformities.

Beyond the pale of controversy he is right in saying that a careful examination of the subject demonstrates that for the most part corsets of types however varied have but little therapeutic value.

For the surgeon who gives much attention to deviations of the spinal column this is a most valuable work.

B. E. M'K.

Canada Under British Rule. By SIR JOHN G. BOURINOT, K.C.M.G., LL.D., Litt.D. With eight maps. Toronto: The Copp, Clark Company, Limited.

No observant visitor to the Canadian House of Commons will long remain unattracted by the striking figure of the Clerk of the House, Sir John Bourinot. His presence lends dignity to the Chamber and inspires confidence that its deliberations will be conducted in harmony with the rules of order which should govern deliberative assemblies, for in regard to rules of procedure Sir John is a past-master. It is not an unprecedented thing to see the work of the House suspended for a moment while the Premier and even Mr. Speaker consult the Clerk on some knotty point of order which has arisen.

But Sir John's energies are not exhausted by his often engrossing duties within the precincts of the House. He has won his title of Doctor of Literature by valuable contributions to Canadian literature. Apart from his works, "Parliamentary Procedure and Practice" and "Constitutional History of Canada," within which realms of study he is the generally recognised authority, he has enriched the historical wealth of our country by various books, magazine articles and lectures. His latest work, "Canada Under British Rule," has placed our Dominion under new obligations to Sir John. The title of the volume sufficiently indicates its scope and purpose. But in addition to the topics naturally treated under this head, our author has added to the value of his production by a chapter on Canada's relations with the United States, and her influence in Imperial Councils (1783-1900). An appendix treats of comparisons between the Constitutions of the Canadian Dominion and Australian Commonwealth, while excellent bibliographical notes complete a volume which we cordially recommend to our readers.

S. P. R.

A Clinical Treatise on Fractures. By WM. BARTON HOPKINS, M.D., Surgeon to the Pennsylvania Hospital and to the Orthopedic Hospital and Infirmary for Nervous Diseases. Philadelphia: J.B. Lippincott Company. 1900.

We certainly consider that we are specially favored in having received from the publishers an editorial copy of Dr. Hopkins' work on fractures. The publication of this book has been looked forward to with a considerable amount of pleasure, as it was announced some time ago that it would be the best, most complete and up-to-date work on fractures yet published. Our first glance at it was the means of at once convincing us that, if it is not the very best book as yet published, it is excelled by none and certainly bears out the prognostications made about it. It is printed on very heavy coated paper, rendering even the handling of the leaves a pleasure. The half-tones which are freely distributed throughout the book are amongst the finest we have ever seen. The skiagraphs are wonderfully clear and distinct, and are away ahead of any we have come across elsewhere. In going over Dr. Hopkins' work, we notice that he has not wearied his readers by going into statistics or dilating, as many authors do, upon methods of treatment which have not been adopted for half a century or more. The author has, as the title shows, devoted his space to fractures considered from a clinical aspect, so that the book is one eminently suited for the surgeon who desires at a moment's notice to refer to any chapter and pick up in a sentence or two

the information he is most in need of. The author devotes his first chapter to Fractures of the Upper Extremity, then devotes chapter two to Fractures of the Lower Extremity, and the balance of the book to less important fractures, those of the pelvis, sternum and ribs, spine, skull and bones of the face. We think we are not exaggerating when we say that the author will very soon have to publish a second edition of his work, so large a demand will there be for it from all parts of this country.

International Clinics. Vols I. and II. Tenth series. The J. B. Lippincott Company.

Vol. I. contains an excellent article by Simon Flexner on Medical Conditions Existing in the Philippines. In it there is a brief but interesting *résumé* of the Plague and an illustrated account of his experience with Beriberi. Some of the other diseases studied were Dysentery, Typhoid, Malaria, and some cutaneous affections closely resembling Ringworm and Scabies.

In this volume, too, is an article by Prof. Victor C. Vaughn, on Typhoid Fever among the troops at Chictananga in 1898. The fly comes in for its share of condemnation in the spread of this disease.

The Progress of Medicine in this volume also makes interesting reading to the progressive practitioner.

Vol. II. contains among many useful articles one by A. L. Benedict, of Buffalo, on the Treatment of Hematemesis by lavage, with a note on the diagnostic use of the stomach tube. A comprehensive article describing the modern operations for the radical cure of hernia, by Edmund Andrews, is well worth reading, though the subject would seem almost threadbare. Goffe, of the New York Polyclinic, has an article of some interest on the anterior incision as the route of attack in pelvic disease. Unfortunately, he does not tell us how to thoroughly disinfect the site of operation.

F. N. G. S.

A Treatise on the Diseases of the Ear, including the anatomy and physiology of the organ, together with the treatment of the affections of the nose and pharynx which conduce to aural disease. By T. MARK HOVELL, F.R.C.S. (Edin.). M.R.C.S. (Eng.); Aural Surgeon to the London Hospital; Consulting Surgeon to the Hospital for Diseases of the Throat, Golden Square; Lecturer on Diseases of the Throat, London Hospital Medical College; Aural Surgeon British Home for Incurables. Second edition. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1901. Printed in Great Britain. Price, \$5.50.

When the first edition of Mr. T. Mark Hovell's work on Diseases of the Ear was published about six years ago, it received from the medical press a welcome as a book worthy of the confidence of the medical profession. It met, in consequence, with a very large sale, and it is almost a wonder that a second edition has not appeared before this date. We find that this edition has been very largely rewritten, there being few chapters which have not been overhauled and materially added to. The book is practical, and that is saying a good deal when unfortunately there are too many medical works whose authors have not sufficiently borne this in mind. Mr. Hovell has written his volume so as to make it readable and acceptable to the profession as a whole, and not necessarily confining it to specialists only.

The Medical Annual: A Year-Book of Treatment and Practitioners' Index. 1901. Nineteenth year. Bristol: John Wright & Co., Stone Bridge; London: Simpkin, Marshall, Hamilton, Kent & Co., Limited; Edinburgh: Young J. Pentland; Glasgow: A. Stenhouse; New York: E. B. Treat & Co.; Calcutta: Thacker, Spink & Co.; Paris: Boyveau & Chevillet; Toronto: J. A. Carveth & Co.

Of the several annual works and which are published from year to year, we think that one which receives a large amount of praise, and that deservedly, is

"The Medical Annual." It is "short, sweet and to the point," and contains a digest of what has taken place in Medicine and Surgery, as well as the other branches, during the twelve months previous. The larger year-books, as they are termed, contain a great deal more material and go into each subject much more completely and thoroughly, whereas "The Medical Annual" gives the same but very greatly "boiled down." For eighteen years past "The Medical Annual" has been a welcome visitor at the offices of a steadily increasing number of physicians in almost every country. The nineteenth year will be no exception to the rule, judging from what the volume under consideration shows at even a glance. Among the editorial staff this year is Prof. Ruata, of the University of Perugia, Italy, who contributes an article on Tuberculosis, of great merit. Dr. McIntyre, of Glasgow, gives an article on X-Ray work in Medicine and Surgery; one on Color Blindness comes from the pen of Dr. Edridge Green, and one on Dental and Oral Surgery from Mr. Turner, F.R.C.S.

Obstetric and Gynecologic Nursing. By E. P. DAVIS, A.M., M.D., Professor of Obstetrics in Jefferson Medical College and Philadelphia Polyclinic. 12mo volume of 402 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Co. 1901. Price \$1.75 net. Canadian Agents, J. A. Carveth & Co., Toronto.

Perhaps we are safe in saying that we feel that there has been no book published of recent years which should be so welcomed by our nurses as Dr. Davis' "Obstetric and Gynecologic Nursing." The course of training that our nurses have got to go through before graduation does not include sufficient obstetrical work; so that unless a nurse is a particularly apt pupil, when she goes forth into the world to earn her livelihood, she is usually unable to cope with any of even the commoner emergencies of obstetrical practice, unless she has at her elbow the practitioner to aid her. A book such as this one will prove to be a perfect boon to every nurse, whether a graduate or not, so valuable indeed that a copy of it should be placed in the hands of every nurse graduating from our training schools.

Monsieur Beaucaire. By BOOTH TARKINGTON. Toronto: The Publishers' Syndicate, Limited. 1901. Cloth. Illustrated by C. D. WILLIAMS.

An exquisite little book, tastefully illustrated. A story so charmingly told that one involuntarily gives a sigh of regret to think that "the book must close over" so soon. This love-story has the "music and the meaning," for the accompanying hum of the cynic may be heard and the sound of a chord struck here and there, which for want of a better name we might call a nation's measure of a nation. But may we listen to another word-song soon. Booth Tarkington is too fine a singer to let his voice be mute nor ever chant to the sound of a muffled drum.

W. A. Y.

The House of Egremont. By MOLLY ELLIOTT SEAWELL. Toronto: The Copp, Clark Company, Limited. 1900. Cloth. Illustrated by C. M. RELYEA.

"The House of Egremont" adds another much-to-be-desired historical novel to the list of the books of 1900. The story is descriptive of the court life of James the Stuart, his banishment, and the troublous times during the end of the seventeenth century. The characters are well drawn and their chivalrous deeds or daring are dramatically portrayed. Several chapters stand out boldly and linger photographically in the memory of the reader. The story is tastefully and not profusely illustrated.

W. A. Y.

Stringtown on the Pike. By JOHN WM. LLOYD. New York: Dodd, Mead & Co. 1901. Cloth.

"Stringtown on the Pike" is a story full of negro superstitions, told in negro dialect. Two of the principal characters, Cupe and his wife Dinah, are certainly not the usual darkeys of fiction, nor the funny Topsy, "Oh, golly, but

I've wicked," type that we have known and loved so long; but a curious kind of creation, possibly an evolution of the creative genius of the author, a something fitting to hang his very interesting collection of old superstitions of the colored folk and strange "bogie-man" stories of the neighborhood upon. Despite its strangeness the story does not lack interest, and anyone who has all the time there is may enjoy the reading of it.

W. A. Y.

PAMPHLETS, REPRINTS, ETC., RECEIVED.

Annual Report, Department of Public Health, City of Newark, N.J., 1899.

Laboratory of the Inland Revenue Department, Ottawa, Canada, 1900. Bulletin No. 71, Cream of Tartar. Bulletin No. 72, Cocoa and Chocolate.

Laboratory of the Inland Revenue Department, Ottawa, Canada, 1900. Bulletin No. 74. Milk, 1900.

A Case of Malta Fever, by J. H. Musser, M.D., and Joseph Saeler, M.D., of Philadelphia.

Some Cases of Dilatation of the Stomach, by J. H. Musser, M.D., and J. Dutton Steele, M.D., University of Pennsylvania.

"Indian and Colonial Addendum to The British Pharmacopeia," 1898, published under the direction of the General Council of Medical Education and Registration of the United Kingdom, pursuant to the Acts XXI and XXII Victoria, Cap. XC (1858), and XXV and XXVI Victoria, Cap. XCI (1862). Printed and published for the Medical Council by Spottiswoode & Co., Grace Church St., London, 1900.

Drug Habits in the United States.—The New York School of Clinical Medicine has established a special department of neurology, of which Dr. T. D. Crothers, of Hartford, Conn., has been elected professor—viz., the study of the neuroses and psychoses of alcoholism and of drug habits. Dr. Crothers is announced to deliver immediately a course of clinical lectures on inebriety from alcohol, opium, chloral, cocaine and other narcotics. These lectures appear to be timely, for the diseases dependent upon or associated with the abuse of alcohol, opium, chloral, cocaine, and other narcotic drugs are steadily increasing in the United States of America, and the demand for special treatment in institutions and retreats is becoming more pressing every year. The last number of the *Quarterly Journal of Inebriety* has the following words in a leading article: "All the large public hospitals and asylums in the States have wards and rooms for alcoholics and druggtakers, and the same demand for treatment is seen in private practice in the increasing number and urgency of such cases." It is also important to notice that there is practically very little special literature dealing systematically and authoritatively with the nature and treatment of these neuroses. As a consequence this field is largely occupied by charlatans and irregulars, who, with innumerable specifics and secret drugs, claim the most marvellous results. We hope that the departure of the New York School of Clinical Medicine, in giving exact systematic instruction in these diseases, will be welcomed by the medical profession in the United States.—*London Lancet*, March 2nd, 1901.

The Canadian Journal of Medicine and Surgery

A JOURNAL PUBLISHED MONTHLY IN THE INTEREST OF
MEDICINE AND SURGERY

VOL. IX.

TORONTO, MAY, 1901.

NO. 5.

Original Contributions.

TREATMENT OF MORPHINISM.*

BY T. D. CROTHERS, M.D.,

Superintendent Walnut Lodge Hospital; Professor of Mental and Nervous Diseases in New York
School of Clinical Medicine.

THE first thing in the treatment must be to secure the control of the patient. His own volition must be subservient to that of the physician. He cannot reason or direct as to the plan of treatment. Failure always follows self-treatment. Removal from home is most essential to secure this control. As in other neuroses, particularly insanity, hysteria, and forms of neurasthenia, control and contact with strangers are far more effectual. This helps to break up the morbid trend of reasoning and associations, which cannot be done at home and with relatives.

Private and special asylums, if properly managed, have superior advantages which cannot be obtained elsewhere. In such places the stimulating firmness of a stranger, if coming with tact, does much to rouse up a weakened will. The surroundings, with the central purpose of removing the morphia, will encourage personal effort on the part of the patient. This idea should be made dominant at the beginning, and no surroundings or other conditions should be recognized as influencing it in any way.

The tendency of each case is to exaggerate the importance of conditions and surroundings in the treatment; also to consider the process of withdrawal and final cure dependent on some insignifi-

* Abstract of a lecture delivered before the class at the New York School of Clinical Medicine, March 18th, 1901.

cant circumstances or conditions. This idea is to be antagonized and overcome by the efforts of the physician and attendant.

If the patient's mind can be concentrated so as to have full faith in some of the means used, this is additional help. This follows after a few days' treatment in most cases, and is often the basis of success. If the mind is unsteady and unable to retain confidence in the measures used, the physician must be resourceful enough to supply this deficiency and retain the confidence of the patient.

In some cases the morphinists are continuously casting about for some new means and measures superior to those used. No plan of treatment, however enthusiastically begun, is ever continued long. The mind seems to be continuously occupied in finding new and better methods. If the patient is a physician, the difficulty is increased, and the treatment is more uncertain. If he can be persuaded to trust implicitly to the physician and attendant, having no concern as to the means and methods of treatment, the recovery is far more certain.

The persons who are unable to repose confidence in any means or measures for their treatment, except for a brief time, and who are suspicious and egotistical, determined to trust their own judgment, and insist upon deciding questions of treatment, are very largely of the incurable class. This exaltation and delusional state is insanity, and not infrequently the first stage of general paresis. Such cases dread control, and are averse to following the uniform line of conduct planned by the physician. They insist on freedom to go and come and implicit trust in their promises to carry out the treatment. Such cases need, first of all, sharp restraint, with full control of the surroundings, and absolute conformity to all rules and regulations. Without this, successful treatment is always difficult.

To those who have this confidence in the means employed and show a disposition to trust implicitly to the physician and attendant, restraint of this kind is not necessary. Where they seem willing to bear pain and discomfort, and to make an effort to help themselves, recovery is rapid. The question of restraint is dependent largely on the condition of the individual. In some instances it is stimulating and helpful; in others, irritating and depressing. In all cases, a measure of espionage and control is absolutely necessary. This cannot be determined clearly at the beginning of the treatment, but will be ascertained from personal observation and study of the case. In some instances, the surroundings of an institution, and the fact of being at an asylum is a restraining power fully recognized; in others, the opposite condition obtains. To many, the personality and control of a physician or attendant is sufficiently stimulating, and persons are able to recover without further restraint.

Surveillance should be continued for a long time after active treatment, and the patient's condition and surroundings should be a special subject of inquiry for the purpose of avoiding temptation and causes which favor relapse. Thus, the business or professional man should not go back at once to his old life and surroundings and subject himself to all the strains and drains which brought on his former addiction and excess. The effort of the physician should be to impress on the patient's mind the need of a radical change in his life and living. This should be done at the beginning of the treatment.

The profound neurasthenia associated with mental enfeeblement and moral palsies are conditions present in all cases. These facts should be considered in the treatment. The withdrawal of the drug removes an active cause, and is only a preliminary in the treatment. In many cases it simply unmasks conditions not suspected before, and in all instances it enables the physician to lay down some successful plan of treatment for the future restoration of the victim. In the removal of the morphia, three methods have warm advocates:

First, the immediate and entire withdrawal.

Second, the rapid reduction extending over two or three days.

Third, the gradual reduction lasting two or three weeks.

The first method of immediate withdrawal has many advocates abroad. Levenstein practised this method with success, and urged it as the most rational method of cure. The cases were shut up in an asylum and the morphia withdrawn at once. Bromides, hot baths, and hot soups were given freely. After the third day the withdrawal symptoms relaxed, and in a week the patient was quiet and comfortable. This method has been opposed and pronounced inhuman. Practically it is used in station houses and jails where persons arrested for crime, who are morphinists, are forced to abandon the drug. Such periods of withdrawal symptoms are often not recognized as such, but are ascribed to some other condition. From this cause many persons confined in jails have periods of acute illness from which they recover.

It is exceedingly doubtful if the collapse from sudden withdrawal ever ends in death, although the effect upon the patient's mind and body is often very severe. In large cities, physicians to the station houses find laudanum and morphia the most excellent remedies, particularly in the sudden collapse indicating the strong probability of morphinism. In private practice, this method is impracticable, although it has been tried with the consent of the patient. It requires careful surroundings and excellent attendants as well as close medical watching.

The rapid reduction covering two or three days or a longer period is very feasible and successful in many cases. It requires

special surroundings, with trained help, and careful medication. The usual method is to reduce the quantity of morphia taken in one or two days, no matter how large, to four or five grains daily. This can be done without much suffering, showing that the enormous doses used have not had their proportional effects. No doubt a large quantity of the morphia is unabsorbed, and remains in the system with the possibility of suddenly developing profound narcotism and death. Thus, a person using twenty grains daily will die suddenly from no observable cause. The morphia in this quantity has been taken for a long time without unusual symptoms or premonitions of death. Suddenly its cumulative action concentrates on the nerve centres, and death follows. Its possibility is always present even when small doses are used, and then in most cases death is attributed to other causes.

The morphia can be removed easily if the doses are divided and given at short intervals down to a small amount. Thus, a patient taking fifteen or twenty grains a day may not notice the withdrawal down to five or six grains. It is essential in this rapid reduction to clear out the alimentary canal with salines or copious draughts of hot water. Sometimes a calomel cathartic is very good. Soda preparations are very useful even when relaxation of the bowels takes place. An interval of twenty-four or forty-eight hours should elapse after the first withdrawal before another reduction is made. The amount should be determined by the condition of the patient. Usually one or two grains can be withheld, and if the remainder is given at night, the withdrawal symptoms are less severe. Placeboes may be given if the mind is morbidly sensitive, but they should be nothing more than bitter tonics.

In this rapid withdrawal stage it should be the study of the physician not to use other narcotics as substitutes too early in the treatment. If while giving four grains of morphia a day cannabis indica or any of the bromides are given, the effects will be uncertain, both of the morphia and the substitute. The fact should be remembered that in opium addictions, narcotics neutralize each other's effects rather than intensify them. Thus, morphia and hyoseyannus given together are antagonistic. Either of these drugs alone would have a more decisive action than when combined. The bromides also work in the same way. Larger doses are required to produce bromism when morphia is used at the same time, and its cumulative action is more severe and long-continued. The same is noticeable in other drugs. Practically it is found better to abandon the morphia before the substitutes are used.

Narcotics may be taken in the morning where the morphia has been taken the night before, and it is customary in this rapid with-

drawal to give the morphia at night, and to use the substitute during the day. Tinctures of other drugs should not be used at this time because of the danger of alcoholic narcotism. Certain persons are very susceptible to the paralyzing action of alcohol at this period.

Some of the remarkable cases reported of the painless withdrawal of morphia have been effected by simply substituting some tinctures for the morphia. In the same manner, the withdrawal of the morphia and the substitution of codeia and other alkaloids or laudanum or other preparations of opium, is simply the transferring from one addiction to another. Many of the specific preparations contain some form of opium, the substitution of which for morphia is simply a change in the form of the drug. To abandon morphia, and to depend upon alcohol in its various forms is not curative in any sense. The rule should be that no alcohol should be used in the withdrawal stage.

The acuteness of the insomnia, depression and neuralgia which follow the rapid removal of morphia, should be treated by baths, hot and cold water applications, with massage. When the morphia is entirely withdrawn, many drugs may be used to lessen the acuteness of the symptoms, prominent among which are valerian, asafoetida, hyoseyamin, cannabis indica, and the coal-tar derivatives. As a rule they should be given in large doses, frequently repeated until several doses are taken; then abandoned. No one drug should be given more than two or three days at a time unless its effects are so marked as to demand its continuance. The vegetable narcotics seem to be valuable in many cases, but do not all act alike. In some cases they are very powerful; in others they are of no value. The phosphate of soda is a valuable remedy, and can be used continuously during this period.

The rapid withdrawal stage should not last more than six or ten days. In some instances a much shorter time is practicable. The reduction of the morphia to four or five grains the first day and the third day after its still further reduction to three grains taken at night, will be found most practicable. Then, if possible, substitute deodorized tincture of opium, in proportionate quantities, the fourth night. The sixth night this can be reduced still further, and then the morphia can be abandoned on the eighth or ninth day. After this time narcotics which have been found effective are to be given at night. These can be abandoned after one or two weeks without special suffering. Strychnia, quinine, and other active tonics are very valuable at this period. Faradism, massage, and confinement in bed, all act with good effect.

This method of rapid withdrawal will tax the therapeutic resources and skill of the physician to the utmost. Each case will vary widely in both physical and psychical symptoms. In one

instance, applications of water in the form of baths, hot applications, or spongings of the body will do well. In another, feeding, confinement in bed and personal attention by attendants will be sufficient. In a third case, exercise, mental diversions and frequent change will lessen the intensity of the symptoms. In others, drug restraint and narcotics are demanded imperatively. The same diversity of symptoms will appear after the morphia is withdrawn, and the same skill will be requisite to adapt the special means to the end required.

In the third method of treatment, the gradual reduction, extending over a period of several weeks, much the same course will be pursued, only less rapidly. The morphia should be reduced to four or five grains the first few days of treatment. Then a slow withdrawal daily or weekly should follow. Where the needle has been used, the difficulties will be increased because of the fascination which follows from the effects of drugs taken in this way. The rule is that the needle should be abandoned as soon as possible and the drug be taken by the mouth.

I have found solid opium to be better borne by the stomach than morphia. This, with the deodorized tincture, can be given in decreasing doses with good effect. This form of opium can be given concealed in bitter tonics, and where the stomach will tolerate it, it is valuable as a substitute, and can be reduced in strength without being recognized by the patient. In many cases it is practicable to abandon the morphia for this form of drug as soon as possible, and then to slowly or rapidly take this away. Opium in the gum or powder is often more efficacious as a substitute for morphia. The narcotism from opium in gum or powder is more prolonged or agreeable by the absence of stimulation, and the withdrawal symptoms have less of the mental and hysteric element. It is found to be less difficult to withdraw opium in the powder than morphia, and that in many cases the bad symptoms are less prominent in the withdrawal period.

Where the reduction is likely to extend over several weeks, owing to the hypersensitiveness of the patient and his disinclination to bear pain and discomfort, great attention should be given to the diet and regular habits of living, and also avoidance of all extremes of exercise, nervous excitement, overeating, and excesses of every kind. It is important to increase the vigor and strength of the patient in every possible way. It is found that with increasing vigor the neuralgias disappear. Often iron and phosphorus tonics are very valuable. The salines in some form are indispensable. The flushing of the alimentary canal is equally important by cathartics. Narcotics, as before remarked, are of little value except in the very last stages, when the opium is finally withdrawn. A gradual system of developing the vigor and

healthy functional activity of the body and at the same time slowly removing the morphia, is the plan to be pursued.

In some instances the morphia has been reduced in infinitesimal fractions of a grain daily, on the supposition that nature would accommodate itself to this slow withdrawal. Others substitute some mild narcotic during the withdrawal process. This in the author's experience has been very unsatisfactory. The exact plan and method of withdrawal must vary with the patient and the physician. Sometimes the surroundings have much influence. If in an institution where these can be controlled, mathematical exactness in the conditions may be followed out. The preferable plan is to drop the morphia in quarter or half-grain doses at intervals of ten days or two weeks, and to accustom the system to adapt itself to the reduced doses by continuing daily a fixed amount. In one case half a grain was taken away every two weeks until only half a grain was used daily. The intervals after the first few days were passed without much suffering. At the last the half grain was removed and bromides substituted for it. The second day hyoseyamin and trional were used with good effect. In a week or so the patient was able to do without any narcotic.

After the morphia is withdrawn, the severity of the irritation and delirium is sometimes best relieved after the second day by return to the drug again in some concealed form for one or two doses. An example of this was that of a morphinist who, after the final withdrawal, was intensely melancholic and delusional. This condition increased until, on the evening of the second day, a dose of morphia concealed was given. The relief and sleep which followed lasted twenty-four hours, after which substitutes were able to produce a degree of comfort, and the restoration was rapid and uneventful.

This course is not always followed by the same results. The patient will demand the same drug, not knowing what it is, and the skill of the physician will be taxed to find a substitute which will be satisfactory. Manias following the withdrawal of morphia can be broken up in this way, and also phobias, but great skill is necessary to prevent their recurrence. In one case of destructive mania from the withdrawal of morphia, the drug was given, again breaking up the mania; then this drug was substituted by forced cold and hot showers, which prevented the return of the mental disturbances, and final recovery ensued. After the crisis is past, the former substitutes may be given with excellent effects. If the patient's mind retains consciousness of the conditions which have existed, this treatment is followed by renewed confidence and faith of recovery.

Insomnia should not be treated by hypnotics with any degree

of regularity. The danger of another addiction is so great that it is unwise to use any one of the hypnotics except for a brief time. Tobacco should be stopped early in the withdrawal treatment. It always seriously complicates the progress of the case. After the withdrawal symptoms are passed its resumption is very commonly followed by relapse. Beef tea and beef extracts are unsatisfactory, and in most cases are nerve stimulants of decided inferiority, and seriously complicate the progress of the case. Fruit juices and grain products, with milk, are the best nutrients which can be given. Often an abdominal bandage, wet either in cold or hot water, has soothing effect on the sympathetic nerves of the abdomen, checking diarrhea and gastric trouble. Cold water applications to the spine in the form of ice-bags are very serviceable.

The methods of treatment which have become popular both in this country and abroad are one of slow, gradual withdrawal of the drug; the other, that of rapid abandonment within three or four days. The method of treatment which has been found most practical by the author is that of gradual reduction, going from stage to stage—now slow, then rapid—being governed by the condition of the case, the history and present conditions. It may be divided into three stages:

First, the preparatory stage, in which an effort is made to ascertain the smallest amount of morphia which can be taken without discomfort to the patient. This sometimes requires an extended observation of a week or more. Many patients use far more morphia than they imagine, being careless and inaccurate as to the time and quantity taken. Others intentionally deceive themselves and others, boasting that they only take a certain amount, when in reality this is only a minimum. Having secured the proper surroundings and control of the case, the patient's statement of the amount he is taking is accepted, and he is given a like amount for the purpose of testing his accuracy. If this is found to produce marked narcosis, it is evident that it is more than is essential for comfort. If he is restless and uneasy, it is less than his usual dose.

These conditions will vary largely the first two or three days. The fact of coming under treatment in strange surroundings and under new conditions produces a psychical element which will derange the nervous system, requiring more than the accustomed dose of morphia at first. After the patient has acquired a degree of confidence, and become used to the surroundings, an approximate average state can be attained. If it is found that he is comfortable on eight or ten grains a day, this is assumed to be the average quantity necessary to produce reasonable sedation.

Having ascertained the character of the case, the next question

is the gradual or rapid withdrawal of the drug. If the addiction is an acquired one in a person previously well and free from neurotic strain and organic disease, and the time of addiction is limited to two or three years, and associated with the use of spirits, a rapid withdrawal is the most practicable. The conditions present are always neurasthenia and anemia, and various functional disturbances which are made worse by concealment and the narcotism of morphia.

Having found the amount of morphia the person takes, and corrected in a measure the digestive disturbances which exist, the second stage of treatment begins. The first step will be to abandon the morning dose of morphia and to concentrate the amount given from noon to six in the afternoon, rarely giving any after six or seven o'clock in the evening, the object being to get the narcotic effect during the night, also to break up the plan of the previous use. Where it had been taken in small doses at short intervals, larger doses are given at longer intervals. If the absence of morphia in the early morning causes suffering, baths are given. Stimulating foods and hot milk or acid drinks if the stomach will bear them. If the discomfort is severe, opium pills of half a grain or one grain may be given. When the system is accustomed to this change the morphia may be reduced one-half the usual dose at once. If ten grains are taken daily, five grains will suffice. If given by the needle, the diminished amount is seldom recognized. If by the stomach, the effects are more apparent.

Later, according to the condition of the patient, a still further diminution is made, and if the suffering is marked a preparation of cinchona bark, usually the infusion, in drachm doses, combined with ten drops of deodorized tincture of opium, is given. Most cases bear reduction without any particular discomfort down to one or two grains. Then increasing doses of tincture of opium with bark becomes a good substitute, and the morphia can be withdrawn at once. If the needle addiction is present, the use of the needle must be kept up with regularity, occasionally substituting one or two grains of dionin in place of the morphia.

When opium is not borne well by the stomach, pills of lupulin, black haw, valerian, cannabis indica, and hyoseyamus may be alternated until some one is found having narcotid properties sufficient to lessen the extreme irritation. Baths are to be given every day during the reduction period, and phosphate of soda in small doses should be given two or three times a day. In from ten to twenty days the morphia can be entirely abandoned.

Then comes the third stage of treatment for the withdrawal symptoms. The effort here will be to diminish their intensity, particularly that of insomnia and restlessness. Prolonged hot

air baths, either in a tub or from a shower, or from packs, are very useful, and very satisfactory in many cases. Nitrate of strychnia is in some cases of great service, particularly where the needle is used. Beginning at the one-thirtieth of a grain, the amount may be increased up to one-tenth of a grain given three or four times a day. If it produces excitement, both muscular and mental, it should be discontinued. Phosphoric acid with nux vomica are remedies whose effects are very pronounced. Extract of horse nettle, given in fifteen or twenty-drop doses, has been found very efficacious in removing the restlessness and encouraging sleep during this stage. Care should be taken of the diet. Small quantities of food should be taken at short intervals rather than full meals at stated hours. If the bowels become troublesome in the dysenteric discharges, increased doses of cinchona with capsicum will be useful. Tea and coffee during this period have been in some instances medicinal in calming the restlessness and allaying the discomforts. In others, they are both stimulating and irritating. Cocoa seems preferable, and should be used often very hot. Electricity has been found useful in some cases; in others an irritant. The Faradic current seems most adapted, and is often followed by decided rest and relief from discomfort. Electrical baths are very highly valued by some authorities, but it is probable that their value depends upon the peculiarities of the case. Experience indicates that they are not always practical, and cannot be used as a general remedy.

The withdrawal period may last from four to ten days, sometimes longer. When it has passed away, the patient recovers in a large measure, and only suffers from general weakness and depression of spirits. Care should be taken by this time not to use any drugs that are known to the patient, particularly those that are likely to produce pleasing effects, and be taken afterwards for their quieting effects. The muscular delirium, or intense desire to use the muscles of the legs in walking, is overcome by massage and vibratory machines that shake and push the muscles by force. A few minutes of this exercise seems to expend the muscular energy and to take away this uneasy feeling. This peculiar delirium cannot be overcome by exercise in the open air without danger of reaction. In one case, walks of ten or twelve miles a day for a time resulted in extreme prostration and relapse. In another case excessive exercise in a gymnasium was followed by the same result. Limited indulgence in this desire is helpful, with massage and hot and cold baths daily. Warm baths at night, if not too stimulating, followed by rubbing, seem to be more sedative than in the early stages of treatment.

Mild exercise in the open air is often of great value, the difficulty being that the person is liable to over-exert himself and suffer

from muscular fatigue. Short rides and walks are of more advantage, the intervals being passed in a reclining position on a couch. In most cases, to remove the clothes in the middle of the day, darken the windows, and go to bed with all the conditions favorable for sleep, is a most excellent measure. After a short time, lengthening periods of sleep will follow. During the withdrawal period the patient should see very little company, do no business, and have no strain on the mind if it can possibly be avoided. In some cases, particularly in those who are over-fed and inclined to corpulency, a Turkish bath with mild rubbing every day, either in the forenoon or early in the evening, will be found very advantageous. In a thin, spare person, with acute sensitiveness and hyperesthesia of the skin, showers and hand-massage are of great value. In the absence of these measures, sponging with warm salt water or with water containing four ounces of vinegar to the gallon, is very soothing. For the various anesthetic and hyperesthetic conditions, also for the local neuralgias, hot and cold applications are very useful.

ADRENALIN, THE NEW HEMOSTATIC.

BY MURRAY MCFARLANE, M.D.,

Laryngologist, St. Michael's Hospital, Toronto; Laryngologist, etc., Highfield Sanatorium for Tuberculosis; Member British Association for Advancement of Science.

W. H. BATES, of New York, by his introduction to the profession of suprarenal extract, conferred an untold benefit to workers in the special field of the eye, nose and throat. This most powerful astringent and hemostatic, by preserving a clear field for operation, greatly facilitates the technique by rendering the parts practically bloodless.

In hay fever and certain diseases of the heart the extract also proved of great value.

The chief drawback to its use was that, being a pulverized animal extract, it was liable to decomposition, with the possibility of septic infection following its use, while in the form of the powdered gland it frequently caused great irritation.

In the efforts to get satisfactory solutions of the gland extract, the profession have been greatly indebted to H. L. Swann, T. P. Berens, T. R. Chambers, Robt. C. Myles, of New York, F. E. Hopkins, Springfield, Mass., T. M. Hardie, Chicago, and Lucien Howe, of Buffalo, who all did conscientious work in this direction; but it remained for Dr. Jokichi Takamine, a Japanese chemist, associated with Parke, Davis & Co., to successfully solve the

problem by isolating from the suprarenal gland the active principle, causing the physiological action so useful clinically.

To it the name Adrenalin has been given. It is a white crystalline substance with the general chemical behavior of a base. It is sparingly soluble in water (1-600). It dissolves readily in dilute acids, forming various salts, solutions of which exhibit all the chemical and physiological action of the active principle of the suprarenal gland.

In a number of investigations by the writer as to the utility of adrenalin, a solution of the chloride was made use of in various strengths from 1-1000 to 1-10000, formed by the addition of one part of the active principle to varying quantities of normal saline solution sterilized by boiling for two minutes.

In fifty cases of conjunctival injection, from causes varying in nature from the simple congestion of eyestrain to the worst forms of conjunctivitis, a single drop of adrenalin solution 1-5000 almost immediately causes a blanching of the membrane beginning in about ten seconds and reaching a maximum in from five to ten minutes, the effect lasting from one-half to one hour, according to the nature of the case.

This blanching may be obtained in from thirty seconds to two minutes by even so dilute a solution as 1-10000. In addition to this effect there is a widening of the palpebral fissure, the eye appearing larger than its fellow, due to the retraction of the tissues.

For practical purposes a 1-2000 solution was found to give the best results in operative work upon the eye, causing no irritation that could be noted upon close observation.

A two per cent. solution of cocaine was used ten minutes prior to the instillation of the adrenalin, in order to prevent interference of absorption of the anesthetic, which seems to occur to a slight extent if the order of instillation is reversed, thus insuring a painless and practically bloodless result.

In two strabismus operations and in advancement of the internal rectus muscle, two drops of a 1-2000 solution rendered the various procedures bloodless ten minutes after being dropped into the conjunctival sac, a deep as well as superficial hemostatic action resulting.

In an operation at St. Michael's Hospital for the removal of an eye, assisted by Drs. McKeown, McKenna, and Silverthorn, not more than ten drops of blood were lost, after three minims of a 1-2000 solution of adrenalin chloride had been dropped into the eye, ten minutes before the administration of the chloroform. The effect of the hemostatic seemed to extend to the deep as well as to the superficial tissues, scarcely any hemorrhage resulting when the optic nerve was severed, thus proving the rapid absorption of the active principle.

In diseases of the eye, where a tendency to iritis or choroidal disease exists and astringents are contra-indicated, and in corneal ulcerations, adrenalin should not be used. But wherever an operation is required it will be found invaluable. It is in operations on the throat, nose and ear that the specific action of the suprarenal gland gives the most brilliant results, the tendency to hemorrhage frequently controlled with difficulty being one of the drawbacks of surgical measures directed to these organs. For a number of years the writer has used with great satisfaction various solutions of the suprarenal extract in the removal of septal cartilaginous outgrowths, septal deviations, and hypertrophies of the turbinates, the only drawback being the difficulty of preparing fresh solutions and the danger of irritation, which so frequently existed.

These objections, however, have been overcome, adrenalin giving better results without any of the concomitant disadvantages. To obtain the best results a 1-2000 solution is applied to the parts by means of a cotton carrier after cocaine anesthesia has been established.

In this manner a number of large cartilaginous growths were removed with scarcely any hemorrhage. In addition to the hemostatic action the contractile power of the drug upon the turbinate tissues greatly enlarges the field of vision for exploratory and operative measures.

For the removal of adenoid vegetations the vault of the pharynx is sprayed by a 1-5000 solution of adrenalin chloride, the results being all that could be desired. Except in the case of very young children, the writer never uses general anesthesia, thus obviating one of the great dangers attending operations of this nature, eucaine B three per cent. being applied locally. In those cases where the patient is over twelve years of age, cocaine two per cent. is preferred, insuring a nearly bloodless and almost painless result.

In hay fever, the treatment of which has been so unsatisfactory, good results have been obtained by the writer by the use of a spray of suprarenal extract, together with the internal administration of pil. antineuralgie (Brown-Sequard) half strength, one pill night and morning and the salicylate of soda five grains and potassium bicarbonate twenty grains in peppermint water, three times daily, insuring a greater comfort to the patient than any other treatment ever tried by him. Adrenalin being less irritating than the old suprarenal extract, good results are to be expected from its use during the coming summer in this most troublesome affection.

In tonsillotomies the gland is to be painted by a 1-1000 solution, which renders the operation almost bloodless; in cauterization,

operations the gland melts away like cheese, no hemorrhage interfering with the heating of the point of the instrument, a fact greatly to be appreciated. As to the possible drawbacks to the use of preparations of the suprarenal gland, a certain amount of controversy has existed as to the greater danger of secondary hemorrhage after its use, various views being held. In the writer's opinion the great law of action and reaction holds good, and a slightly greater tendency to after-hemorrhage exists, but is not in any sense dangerous and can be controlled with universal success if the cut surfaces are swabbed with a mixture of equal parts of glycerine, alcohol, and rose water.

Another point is to limit the action of the drug by being careful to apply it only to the parts to be operated on.

Microscopic examinations of sections taken from cut surfaces one hour after operation show a more relaxed and open condition of the blood vessels where the hemostatic has been used, but if the above directions are followed there will be no trouble from secondary bleeding, which in the vast majority of cases is never seen or only amounts to a capillary oozing.

In a few cases where suprarenal liquid was used in spray form, a pain behind the eyes was noted where it had been used too freely, as well as severe sneezing, but adrenalin in normal saline solution has been found to be almost without irritating qualities; in fact, after the slight preliminary shock of application, a slight anesthetic action seems to result.

No constitutional disturbance has been noted after its use, the slight increase in the pulse rate being traceable to the nervousness of the patient as well as to the accompanying cocaine, the drugs being used together in the majority of the writer's cases.

The investigation as to the internal action of adrenalin has been left to the workers in the field of general medicine.

Prognosis in the Heart Diseases of Children.—It has impressed me, as it must have impressed every physician who has had the opportunity to see sick children, that when they suffer from disease of the heart the prognosis should generally be more hopeful than when adults suffer with heart disease. This is partly because they are more elastic than adults, whose tissues are stiffer and can almost be said to be brittle, and most of all, perhaps, because children who have not attained their full growth have the opportunity for repair during growth. Injury, or any distortion of the heart that is caused by disease, may be effaced as the organ increases in size, for the usual tendency of nature is toward the production of an ordinary type.—Dr. A. V. Meigs, in *Journal American Medical Association*.

Selected Articles.

TECHNIQUE OF X-RAY WORK.*

BY MIHRAN K. KASSABIAN, M.D.,
Skiagrapher to Medico-Chirurgical College and Hospital, Philadelphia, Pa.

MR. PRESIDENT AND GENTLEMEN,—I feel highly honored in being permitted to read a paper at this first regular meeting of the Roentgen-Ray Society of America, many of whose members have attained world-wide celebrity as specialists in one department of science or another, and in assuming the responsibility of the task I have undertaken, I would have it clearly understood that I am fully conscious of the smallness of my own claims to be heard on a subject so important to the public generally, and to medical practitioners in particular, as x-ray photography has already proved itself to be in the past, and is likely to become in the future. Nor would I have undertaken the task, had I not felt some assurance that the lessons I have learned during a practical experience of eight years in photography, and of several more in skiagraphic work in hospital and United States Government service in 1898, may prove serviceable to others also.

Since Prof. Roentgen's famous discovery, I have made more than eight hundred x-ray negatives, and 3,000 fluoroscopic examinations, some of which, I need hardly say, were failures, but not altogether valueless on that account. In fact, failures in scientific investigations are often the greatest and most efficacious teachers. For a knowledge of what to avoid is frequently of the utmost importance, especially in work of that character.

In treating the subject of my paper, I shall feel myself under constraint occasionally to enter upon domains of science where, undoubtedly, many gentlemen present are far more at home than myself. But I trust these little trespasses will be overlooked, and their occurrence viewed as entirely unavoidable.

Need of Experience in Photography.—At the outset I would impress on the x-ray worker the importance of a thorough knowledge of photography, since without that he can hardly hope to

* Read before the Roentgen Society of the United States, Grand Central Palace, New York City, December 14th, 1900.

succeed in obtaining a satisfactory negative. Moreover, it is very important that he accustom himself to developing his own plates, since if he sends them to a photographer for development, the latter will be liable to under-develop or over-develop them. Owing to his ignorance of the case, he does not know exactly what he is aiming at; and besides this the operator does not gain experience as to the time of exposure. And again the patient might be from a distance, so that a quick diagnosis would be of the utmost importance. Few surgeons and physicians can either see or understand anything in an under-exposed or under-developed negative; and even when the negative is good it requires an experienced eye to take in and appreciate all its details. Hence clearness in the negative is essential to the practical usefulness of skiagraphy in surgery and medicine. And what the negative is, the resulting print must also be.

Fluoroscope versus Skiagraph.—There are two methods of examining a case with the x-rays, both of which are important and useful, yes, necessary, since they confirm each other; namely, fluoroscopic and skiagraphic.

It may be noted that there are great diversities of opinion among x-ray workers regarding the relative values of these two methods. As a matter of fact, however, they both have advantages and disadvantages, which I will endeavor to set forth in detail as results of my own personal experience and observation.

1. The fluoroscopic examination is merely temporary, while the view is limited to few individuals. On the other hand, the skiagraph is a permanent record, visible to everybody, and moreover, capable of use in legal cases, the lecture-room, clinics, etc.

2. Fluoroscopy, however, is easy, quick, and affords ready facilities for comparison with the normal corresponding part. In these respects it has an advantage over the skiagraph, which requires considerable time to effect, and is more tedious.

3. Fluoroscopy also has an advantage when the heart, joints, and respiratory movements are concerned, as it offers better opportunities for studying them, and from different directions, when necessary. The skiagraph shows a blurred effect in the case of moving organs.

4. Fluoroscopy is at a disadvantage when the pelvis, kidney, spine and deeper tissues are to be examined; but the skiagraph shows them plainly.

5. A fluoroscopic examination, again, fails to reveal small foreign bodies in the bony part—as shot in the eye, for instance—but the photo-plate differentiates by relative density, and therefore shows them distinctly.

6. The fluoroscopic examination shows only indistinctly incipient changes in the bony part (as callus, exudation, floating ear-

tilege in the joints); whereas the skiagraph shows them clearly by differentiation (provided the vacuum is suitable).

7. In an impacted fracture, also, as there is no displacement or separation, the relative density is unaltered; fluoroscopy is of little service, but the skiagraph shows it clearly even through the splint, or plaster-of-Paris, if any is present.

And now, to revert again to the negative, I would direct special attention to a few points of vital importance to success in the effort to secure that clearness of detail which alone determines its practical usefulness.

Vacuum.—It being presumed that the general condition of the x-ray apparatus in use is satisfactory, the operator must see to it that the degree of vacuum he is working with is suitable to the case he has in hand. For fluoroscopic purposes a high degree is usually necessary.

Preliminary Fluoroscopy.—All being in readiness, he should first make a fluoroscopic examination of the body or part affected, between which and the focus tube a black screen has been interposed to exclude the surrounding light. This examination must be thorough, since on it depends in great part the success or failure of the subsequent work.

As a case in point, let us take a joint. View it from different directions, and, moving it, compare carefully with the normal corresponding part.

Plate.—This over, take your plate, and put it into the usual envelope of black paper, making sure that the gelatine side is upward, *i.e.*, toward the smooth side of the envelope. Use a piece of blotting paper or silk to prevent its getting wet from perspiration of the part pressing on it.

Position of Patient.—The patient must be placed in such a way as to secure comfort, so that there may be no undue tendency to movement of the part affected during exposure. This part, divested of clothing, must be covered with an oiled silk cloth without wrinkles, and brought as near to the plate as possible, an aluminum sheet being interposed and connected with the earth.

In case of foreign bodies in the eye, put the patient in a chair, and use a head-rest, which I find more convenient, and produces less tendency to disturbance of the part either by its own movement, or by ordinary respiration, than if he were reclining.

Position of Crooke's Tube.—The arrangement just spoken of has presumably been made with due regard to the position of the Crooke's tube.

Now it is positively known that the x-rays are both divergent and rectilinear, wherefore even slight carelessness on the part of the operator may cause much distortion and disproportion, or overlapping of bones in the plate. Hence the part to be examined

must be placed in the centre of the plate; and the platinum disc of the focus tube must be directed to this centre, perpendicularly to the centre of the hemisphere of x-rays generated.

Distance of Tube.—Put the tube as far as possible from the part within a limit of four feet; and remember that the farther the tube, the longer is the time of exposure required, which is somewhat of a disadvantage, but this disadvantage is more than counterbalanced by the increased sharpness of the shadows obtained.

Time of Exposure.—As we have just seen, the time of exposure depends on the distance of the tube, but this is only one of several determining causes to be considered. It depends also on the degree of vacuum, and on the resistance met with—as, for instance, the thickness or density of the part to be examined; the presence of splint, plaster-of-Paris, etc.

Dark Room.—Assuming then that due care and attention have been given to these details, the next step is to remove the plate to the dark room, which should be located as near as possible to the x-ray room. And there I propose, with your permission, to leave it for a time, while I offer a few remarks on the very important subject of light (solar, white) and photo-chemistry. In doing this I will endeavor to be very concise, and to confine myself to such matters as bear directly on the technique of x-ray work, and are necessary to a clear understanding of the operations it involves.

Importance of a Knowledge of Photo-Chemistry.—At the close of the nineteenth century, we no longer believe in empiric formulæ, nor do we place a blind, unreasoning faith in the scientific teachings of our ancestors, however eminent they may have been in their day and generation. As physicians, we must know the chemical and physiological action of the remedies we employ or advise. When we prescribe or administer a drug, we must have a clear notion of its most probable effects on the economy and different organs of the body.

Many photographers, undoubtedly, take and develop pictures by a merely mechanical process, with little or no knowledge of the scientific principles on which their art is founded, and by which alone it can be advanced and perpetuated. To such a one, any irregularity in results presents almost insuperable difficulties, which might easily, or at least more certainly and readily, be overcome by a knowledge of what is taking place among the chemicals he uses.

In a word, a knowledge of photo-chemistry, or the want of it, makes all the difference between the master of his art, who makes his processes the slave of his wishes, and the mere mechanical operator, who is the slave of formulæ.

Light.—A knowledge of the nature of light is not of less importance than chemical action to ensure success either in photography or skiagraphy.

In the case of a photograph, the reflection of light from the different objects falls over the sensitive plate in a reversed position; whereas in the skiagraph the shadows fall directly on the plate. We do not know the exact relationship of the so-called x-rays, notwithstanding the many theories which have been broached, but we do not know that their action on the photographic sensitive plate is the same.

Action of Light.—A ray of white light has two modes of action, (1) photo-physical, and (2), photo-chemical or actinic.

The first calls for merely a passing notice, since it is of little importance in photography. The effects of its chemical action, however, are apparent at every stage of progress in the photographic art; and therefore the cause of such action and the precise mode of its operation should be diligently sought for.

"In many cases the cause of chemical action may be found in the physical explanation of the nature of light, or radiant energy, the undulations of which it is supposed to consist, exerting their energy in bringing about chemical action, or decomposition."

For our present purpose we may assume this undulating theory, with the chemical theory that bodies are composed of molecules, which are not only themselves in a continual state of oscillatory movement, but whose constituent atoms are also subject to an inter-molecular motion of a similar kind. The principle here involved is that of the superposition of small impulses.

Such impulses, repeated at regular and suitable intervals, may produce a considerable effect by creating a new molecular and atomic movement in substances, resulting in chemical changes.

In fact, when light is absorbed by a body, whether wholly or partially, it must have done work of some kind. In general, perhaps, a rise of temperature results, but in special cases the effects upon the atoms and molecules may cause them to enter into fresh combinations.

Oxidation and Reduction of Light.—We know from observed cases that the chemical action of light may be that of oxidation or reduction; or it may produce decomposition or photo-dissociation.

The haloid salts of silver are those upon which the action of light is the most important, but it is not yet determined whether this action is one of reduction, or oxidation, or what it is.

Chemistry of Developing Process.—We now proceed to the developing process, in which manipulative skill born of long practice and an intimate knowledge of chemical principles will both be found of service.

It is only in exceptional cases that photo-chemical action of light produces on the sensitive film any visible alteration. The image "photographed" on it is usually invisible, or latent. The light having done its work, means have to be found by which the

change in the photo-sensitive plate may be made visible. This process is called "developing," and the agents used in the operation "developers." The action of the developers is in the main chemical, and their varieties are legion, but the chief ones are acid and alkaline.

In alkaline development the image grows by continual reduction of the silver haloid downward, as may be seen by the image only becoming visible towards the end of the operation; consequently, when the silver is removed by acids, a sunken cast of the image is left in the gelatine.

The use of potassium bromide as a "restrainer" probably rests upon the formation of a double salt between it and the silver bromide, this double salt being less reducible than the silver haloids alone.

The "accelerator" is sodium carbonate, or caustic soda, which act by opening the pores to let the reducing agent into the gelatine.

Developers.—I will now explain briefly the various actions and modes of action of the chief agents used in development, although the doing so may involve some little repetition.

The "developers," as has already been explained, are those reagents which bring out the invisible image by reducing the oxidized haloid silver salts. The alkaline developers play a very important part indeed, owing to the diversity of their modes of action.

Reducers.—(1) Some of them are reducers, or density givers, as pyro, metol and hydrochinon.

No. 1.		Metric.	
Metol.....	$\frac{1}{3}$ ounce =	15.50	c.c.
Hydrochinon.....	$\frac{3}{8}$ " =	11.65	"
Sodium Sulphite (crystal).....	$7\frac{1}{2}$ " =	233.00	"
Distilled Water.....	120 " =	3600.00	"
No 2.			
Sodium Carbonate (crystal).....	4 " =	15.50	"
Distilled Water.....	30 " =	900.00	"

For developing, take four parts of No. 1 and do not add No. 1 in full proportion, viz., one part. But begin with small amount; if necessary, dilute for summer season on large plates, renew the No. 1, if necessary. *Vide* "Modus Operandi of Developing." 10 per cent. bromide potash.

Accelerators.—(2) Others are accelerators, which act by opening the pores of the gelatine, thus setting the reducer in action, with an energy proportional, within certain limits, to the amount of acceleration, as ammonia, sodium carbonate, or caustic soda.

Restrainers.—(3) Others, again, act as restrainers, as potassium bromide, which retards the action of the reducing agent.

Preservatives.—And (4) some act as preservatives, as sulphite of soda, or citric or other acid.

Practical Hints.—If the operator will observe and carry out the following general rules of procedure, he will seldom fail to attain the end he is aiming at.

1. To increase the rate of development, use a concentrated developer; increase the proportion of the accelerator, reduce the proportion of the restrainer, and increase the temperature.

2. To retard development, dilute the developer, reduce the proportion of the accelerator, and increase the proportion of the restrainer.

3. To increase (contrast); reduce the proportion of the accelerator and increase that of the density giver and restrainer; increase hydrochinon.

4. To reduce (contrast); reduce the proportion of density giver and restrainer; increase that of the accelerator, and dilute the developer.

Modus Operandi of Development.—We now come to the detailed process, or *modus operandi* of development, which, of course, is conducted in a room from which all white light has been carefully excluded. A small red light may be used to enable the operator to see what he is doing.

Arrange your developers and accessories in separate bottles, marked 1, 2, 3, etc. Then take tray and measure number 1, (metol) (reducer) into one graduate, and number 2 (accelerator) into another. Then take your plate from the envelope, handling it carefully, and being cautious not to bring it too near the red light. Dust it, and put it into the tray, gelatine side upward, over a plate-lifter. In the case of a large sized plate, it is better to moisten with distilled water, or old developer, to avoid air bubbles, and prevent the patches which may be produced by the strong developer; but for 8 x 10, or 11 x 14 size, this precaution is not necessary. It is advisable to use first the old developer, then pour it out, and use the new one, if necessary. Pour number one (developer) from the graduate glass into the centre of the plate, and rock the tray.

Do not keep too far away from the red light at the beginning, or you will not be able to see whether the developer is being evenly distributed, or is leaving patches. When you notice that it is even, move to a distance of two or three feet from the light, and watch the plate. The time that elapses between the beginning of the development and the appearance of the picture cannot be definitely fixed, but it is usually ten, twenty, or thirty seconds, according to circumstances. You notice first the exposed part of the plate, that is, the part that has not been interposed between the tube and any matter, grows darker and darker; then the muscles,

or other easily penetrable parts, begin to appear in the picture. If it seems to be slow, use a little alkaline by bringing the solution to the corner of the tray and pouring in the alkali (No. II), mix well before rocking the tray. If the picture appears suddenly, use two drops of potassium bromide, 10 per cent., as a restrainer. Do not examine the plate very often by transmitting light, as it may cause fogginess.

The duration of development depends on several circumstances, as, for instance, the season, or the temperature of the solution or of the room. Development is more rapid in summer than in winter. It is affected also by the part of the body taken, since the thicker and deeper tissue continues until the negative is entirely dark, and opaque in transmitted light, in which case it may be advisable to wash the negative, and renew the developing process.

Fixing.—After the developer has done its work, there still remains a portion of unaltered sensitive salt, which must all be removed before the plate is brought into the light. This process is called “fixing,” and is effected generally by the use of “Hypo,” but sometimes it is advisable to employ “acid fixing.” In order to prevent any after-staining or yellow color, it is better to leave the plate in the solution five or ten minutes after it has been apparently fixed. The fixing is followed by washing the plate in running water to remove whatever chemicals may be still adhering to the gelatine film. This final process, like all the previous ones, must be thorough. I find it of assistance while washing to rub the plate gently with absorbent cotton. The patience of the x-ray worker, especially, is sorely tried during this final operation, as he is naturally anxious to learn whatever secrets the plate may have to disclose. The water, however, must be allowed sufficient time to remove the last vestiges of the persistent Hypo from the film. But in this, as in all mundane things, the end comes at last, as we assume it to have now come in the case of our negative.

Faults in the Negative Causes of Non-Success in Plate.—Whenever faults, as often happens, are found in the negative after development and fixing, they are generally due to one or another, or a combination of the several causes enumerated by Mr. Cramer, the manufacturer of photo and x-ray plates, whose long experience in, and thorough knowledge of, photographic work, enables him to speak authoritatively and exhaustively upon the subject. What he says has immediate reference to photographic plates, but with very slight and self-suggestive changes, his remarks are equally applicable to x-ray negatives. These faults with their causes are:

1. Foggy negatives, over exposure, white light entering envelope, too much light during development. Fog may also be caused by decomposed developer; introduction of hypo or nitrate of silver into the developing solution; developer too warm or containing too much carbonate of soda, or potassium, or bromide.

2. Weak negative with clear shadows: Under development.
3. Too strong with clear shadows: Under exposure.
4. Weak negative, with plenty of detail in the shadows: Over exposure, or too weak developer.
5. Too much intensity: Developer excessively strong, or too warm.
6. Fine transparent lines: Using too stiff a brush in dusting off the plate.
7. Round, transparent spots: Air bubbles in developer.
8. Transparent spots of irregular shape: Caused by dust. Keep the camera and tablet free from dust, and brush off the plate carefully before placing in the holder (envelope).
9. Yellow colored negative: Decomposed pyro solution; insufficient or decomposed sulphite of sodium in developer.
10. Yellow or brown stains, iridescence of surface: Caused by using the developer warmer or stronger in alkali than the plate will stand; also by plain hypo solution which, by continued use, has assumed a darker color; or by insufficient fixing. The stain may be removed by applying the reducing solution and the iridescent surface can be wiped off with a tuft of cotton while the negative is wet.
11. Mottled appearance of negative: Precipitation from the fixing bath containing alum, if the solution is old or turbid.
12. Crystallization on the negative and fading of image: Imperfect elimination of the hypo.

Faults Rectified by (1) Reduction.—The remedies for several of the foregoing faults are given in their respective places, the omissions I will endeavor to supply here. The density or darkness due to over-exposure or over-development may be rectified by using potassium ferrocyanide with the hypo.

Or (2) Intensification.—On the other hand, when the negative is weak, that is, wanting in density due to insufficient deposit of silver caused by under-exposure, or under-development, it requires intensifying or strengthening. The favorite intensifier is mercuric chloride. On covering the wet negative with a solution of this compound, the silver deposit is bleached, the mercuric chloride being reduced to white mercurous. After washing off the excess of the intensifier, the plate may be treated with a dilute solution of ammonia, which gives black mercurous ammonium chloride, thus adding greatly to the density of the negative.

Interpretation.—The plate is finally dried, and brought into the light. It remains now to interpret it. And the power to do this unerringly results from long experience, aided by such anatomical knowledge as enables the operator to detect at once any abnormal appearance in the part or parts of the body depicted. His further special knowledge may enable him also to comprehend its

full significance. The totality of this combined knowledge and experience determines and establishes his position as an x-ray worker. Neither the experienced photographer nor the skilled surgeon or physician can see what he sees in the plate, and what he sees he can show and explain to others by his acquired powers of interpretation. Do not be prompt in diagnosis, study the plate carefully.

Preparation of Materials.—Before closing, I would offer a few practical suggestions which may prove serviceable to the inexperienced worker, however superfluous others may think them. In the first place, it is important to remember that the greatest care in the preparation of chemicals and solutions is needed.

Use either distilled water or ice-water to avoid impurities, such as carbonates, etc. It is advisable to use the formulæ of the manufacturer of your plate.

Chemicals must be C. P., such as are prepared for photographic use, and you should know their relative strength.

Bottles must be labelled, and colored bottles light-proof, and well corked always. Filter your solutions. Remember in this connection also that cleanliness is paramount.

Selection of Plates.—I generally use plates manufactured expressly for x-ray purposes. I have tried Eastman's Bromide papers and films, but they do not give satisfactory results. It is advisable to use always the same plate and solutions, when once you are satisfied.

The large skiagraphs (of tubercle lungs, 14 x 16) which are on exhibition here with the Roentgen Society are made on Carbut's x-ray plates, as are also some of the small ones. But I am now using Cramer's special x-ray plates. They are reliable, and give richer details.

Printing.—As to the printing, that is quite a simple process, and involves nothing the skiagrapher can claim as special. Moreover, since the negative shows more details than the print contains, the latter's value consists chiefly in its greater convenience for handling and for exhibition and class purposes. This being the case, any enlargement on the processes, beyond that enough details should be printed to show the part affected, and that a light print is better than a dark one, would be quite beyond the scope of a paper that is discussing the "technique of x-ray work." And I feel that I have already trespassed too much upon your valuable time. But before concluding, I would like to dwell for a moment on the present conditions and the future possibilities of skiagraphy not with any view to marking their limits, or suggesting their nature, but rather to draw attention to their vastness and their supreme importance to science and humanity. The imagination may be aided to comprehend somewhat of their significance by

comparing "small things with great." The "Fathers of Photography," Daguerre and Niepce, Fox and Talbot, in the early days of their great discovery, might have had some dim fore-knowledge of its susceptible development, but their wildest imaginings must have fallen far short of the actual realities a few brief years were destined to divulge.

Its beginnings were limited to portraiture and pictorial representations generally, but the improvements which year by year have been added to its capabilities in this direction, have resulted also in a far wider field of action and usefulness. The naturalist, the physiologist, the archeologist, and even the philologist, are to-day employing it extensively as a most useful auxiliary to their studies; while its records and revelations in bacteriology and astronomy are simply invaluable. And the limit of its usefulness is by no means reached.

These are facts worthy the attention of the skiagrapher of to-day, as they may enable him, however vaguely and narrowly, to discern the scope and range of the work he is engaged in. What nobler inducement could be offered to put forth all the care, zeal and intelligence of which he is capable, than x-ray work affords? For skiagraphy is, indeed, the crown and glory of photographic and electric efforts. Therefore, let us strive earnestly, faithfully, diligently and with singleness of purpose, so that, be the visible and tangible results what they may be to us personally, generations of men yet unborn may in time arise to bless our labors, and proclaim their and the world's indebtedness to the early pioneers in x-ray work.

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CLINICAL STUDIES OF A NEW ANALGESIC.

BY M. LOEWENTHAL, M.D., BROOKLYN, NEW YORK.

THERE are few drugs which have been so great a blessing to humanity as opium and its derivatives, none of which have so wide a range of therapeutic indications. In the progressive age in which we live, however, there has been a constant striving towards obtaining more perfect weapons with which to combat disease, and hence it is not surprising that an attempt should have been made in late years to discover a preparation which, while retaining the therapeutic properties of morphine, would be as free as possible from its unpleasant and injurious effects. Judging from my experience, I feel justified in stating that the diacetic acid ester of

morphine, known as heroin, represents an important advance in this direction. Although somewhat inferior to morphine in its narcotic effects, it is a much safer and equally efficient remedy in the majority of diseases in which the former is employed. Unlike the opium preparations, it does not dry up the secretions, and therefore has a much slighter tendency to produce constipation, and also is very much less liable to cause gastric disturbance, headache, and protracted lassitude.

In a former article on heroin I discussed particularly its use as a sedative in respiratory affections. In the present communication I desire to call attention to some of its additional indications, and without entering into any extensive comments, I have subjoined a few cases which will speak for themselves.

CASE 1. Mr. J. W., aged 34, unmarried, has been in good health with the exception of cardiac weakness caused by a long and intense attack of pericarditis due to rheumatism four years ago. He has a bad habit of eating, sometimes masticating his food slowly, at other times swallowing it so rapidly as to cause indigestion and pain in the stomach. During my period of treatment he has suffered from twenty-one of these attacks, occupying a space of eighteen months. Treatment of these attacks at first consisted of morphine sulphate in pill form or hypodermically; at other times with addition of atropine. This treatment sufficed; it relieved the pain almost immediately, but would leave him in a condition of exhaustion, occasionally amounting to collapse; and the consequent indescribable wretchedness compelled him to remain away from business the next day in order to rest. A few weeks ago I was summoned to his house, and found him in one of his gastric spells, as he called them. He begged me not to give him any opium owing to its bad effects. I assured him that I would try another remedy, and prescribed heroin, 1-8 grain, to be repeated in an hour if the pain still remained. The effect was magical; in fifteen minutes he was feeling very comfortable, and the next day did not suffer from his usual weakness. About ten days ago I again saw him in one of his attacks, and administered two tablets, each consisting of heroin 1-24 grain; the pain ceased in fifteen minutes, with no exhaustion on the day following. Two days ago he had a recurrence, which was relieved in the same way. I might remark about this case that relief was obtained as quickly from this drug, and more satisfactorily, than from the administration of morphine. He complained of intense thirst when taking morphine; with heroin this was not noticed.

CASE 2. Mrs. C. C., aged 26, has had asthma since childhood. The attacks were spasmodic in character, and generally worse when she was menstruating, at which time her condition was pitiable. They came on about once or twice a month, lasted about three

days, the first day being the worst. Her treatment had consisted of iodide of potash, iron, the hypophosphites, tonics, opium and its alkaloids, belladonna, smoking stramonium cigarettes, oxygen inhalations, and many more "sure cures." I saw her on December 1st in one of her attacks, and prescribed heroin, 1-12 grain, every two hours. When she had taken the third dose her breathing became natural, and she felt easy; the next day she had no attack. On December 23rd I saw her again. She was having a violent paroxysm this time; her menstrual flow had appeared a few days before. I immediately repeated the above treatment, and had the satisfaction of hearing her express her delight, about two hours after taking the heroin, that at last life was worth living. On January 23rd, when she again menstruated, she had a slight attack, which subsided as soon as she had taken one twenty-fourth of a grain of heroin. She has had no recurrence since.

CASE 3. Albert W., laborer, aged 39; family history good; anemic. His trouble began with a chill of the twenty minutes' duration, followed by high fever and pain in the right side. Expectoration bloody. After a physical examination I diagnosed croupous pneumonia. Treatment consisted of hot poultices, with oleum terebinthinæ applied to the painful side, with a hypodermic injection of heroin hydrochloride, 1-12 grain, every four hours. Phenacetin, 5 grains, every four hours, was given during his entire sickness. For his cough, ammonium carbonate, 3 grains, every three hours, was administered in white pine syrup. When the temperature was very high, cold sponging was employed. Patient was convalescent in fifteen days.

CASE 4. Wallace P., aged 6; catarrhal pneumonia. The treatment consisted of hot mush poultices with lard next to the body; heroin, 1-20 grain, every six hours; for the fever, quinine, 3 grains, every four hours; also ammonium chloride, 3 grains; tinct. aconiti rd. 1-2 drop, in syrup pruni virg. every three hours. Convalescent on the tenth day.

CASE 5. A. B., aged 63, frail habit, hard drinker. History: Patient had had chronic intermittent fever, and had undergone a severe surgical operation. Diagnosis: Croupous pneumonia, attacking his left lung violently and suddenly. Imperfect reaction. Treatment: Flaxseed and turpentine poultices. On the third day the wet pack; quinine sulphate, 5 grains, every four hours. As the patient was getting worse on the fourth day, the following was given: Chloride of ammonium, 5 grains; tinct. aconiti rd. gtt. 2; heroin hydrochloride, 1-12 grain; aquæ, q.s., every two hours. On the fifth day he responded well to treatment and took nourishment of milk and whisky without trouble. Expectoration abundant and easy. Distress and pain intense when temperature reaches 102.4 degrees, but is relieved by phenacetin.

5 grains. Seventh day, the case seemed to be doing nicely. On the eighth day the patient's temperature went to 106 degrees. Cold sponging was resorted to, which reduced it to 101 degrees. Cough was troublesome, and there was some cardiac depression; whereupon I ordered caffeine, 2 grains, heroin hydrochloride, 1-16 grain, every four hours. The patient reacted promptly, and was convalescent on the sixteenth day.

CASE 6. Mrs. D., aged 37, mother of five children. Surroundings filthy. She had been sick for four days before I saw her. Diagnosis: pleuro-pneumonia. Respiration rapid and jerky; pulse 120, weak; temperature 103. Treatment: Flaxseed poultices, and chloride of ammonium, 4 grains, tinct. digitalis, 5 drops; heroin hydrochloride, 1-20 grain in sufficient water every two hours. Phenacetin, 5 grains, every four hours. Patient stated her menses had returned after being absent two months. The fourth day the patient was resting comfortably; pulse 100; temperature, a.m., 100.2; p.m., 101 degrees. Cough troubled her somewhat. She was restless at night, and I gave her a hypodermic of heroin hydrochloride, 1-24 grain. The next morning she was comfortable. Convalescent on the twelfth day.

CASE 7. Jos. S., Italian, aged 25, was sick for five days before I saw him. He had chill, fever, pain in the left side, cough, etc. Diagnosis: Lobar pneumonia. During the next night he had mild, muttering delirium. After the third day his delirium became suddenly violent. He got out of his bed, ran to the window and would have thrown himself out if his relatives had not restrained him, and carried him back by force to bed. His temperature went up to 105 degrees, and cyanosis developed. Examination of the patient showed a marked frictional pericardial sound, which had not previously existed. I prescribed spirit. vini gallici, 1-2 ounce, every half hour, day and night. Two days following the patient was much improved; cyanosis had lessened, and the delirium was much better. The pulse was now 145, easily compressible, and not very weak; temperature 104 degrees. I prescribed heroin, 1-12 grain, every four hours, with the above treatment, brandy being given every hour, day and night, until cyanosis had disappeared. On the ninth day there was a fall of temperature to 100 degrees; pulse 110; no cyanosis. Heroin was continued in the same doses, every six hours. Patient convalescent in twenty days.

CASE 8. Miss D., aged 36, good family history, was the mistress of a medical student, who performed an abortion on her at four and one-half months' gestation. He had given her ergot, opium, brandy, and chloral, but without effect. When I saw her on the sixth day her temperature was 105.4 degrees; she was delirious; pulse very rapid; abdomen distended, and extremely pain-

ful; a most offensive vaginal discharge. Examination digitally revealed as follows: Uterus very soft, and the edge of the placenta could be felt protruding from the os. I prescribed ext. ergotæ fl. 1-2 drachm; chloral hydrate, 1-2 drachm; and requested that the attending physician meet me there in four hours. Upon my return I met Dr. T., who was a young graduate of only three months' standing. He was afraid to do anything with the case. I requested him to administer the anesthetic, and when the patient was completely under the influence I rapidly dilated the os, seized the putrefying placenta, and extracted it. An intrauterine injection of corrosive sublimate solution was given. The patient was then cleansed, put to bed, and given a hypodermic injection of heroin hydrochloride, one-tenth of a grain. In an hour I gave her another one-tenth of a grain. The temperature fell rapidly, and she was feeling much easier in a few hours. The improvement continued, and the patient went on to a speedy recovery.

CASE 9. Mrs. D., aged 19, was three and one-half months pregnant. She had pains in her back and a bloody discharge from the vagina. I gave her ten drops of ergot and digitalis to control the hemorrhage, and ordered the patient to bed; but her pains and hemorrhage became worse. On the second day she became feverish, and the pains becoming so intense, I gave her a hypodermic of one-sixth grain of heroin hydrochloride, which controlled them. The membranes had ruptured, but the os hardly admitted the finger. I sent for assistance to administer an anesthetic. I inserted my finger with considerable trouble into the os, which I succeeded in dilating, and in fifteen minutes was able to pass my index and middle fingers into the womb, seizing and removing a fetus and an adherent placenta. Asepsis was observed as in the previous case. I gave her a hypodermic injection of one-twelfth of a grain of heroin hydrochloride. In four hours the patient was resting comfortably, the pain was gone, the fever diminished, and she went on to a rapid recovery.

CASE 10. Mrs. P., aged 20, primipara, seven months pregnant, on going out of the door fell upon her abdomen. Expulsive pains and uterine hemorrhages followed. Arriving about one hour after the accident I found the bed and clothing saturated, the membrane (amniotic) distended and protruding through the os uteri, which was dilated to about the size of a walnut. I gave her a hypodermic injection of one-sixth of a grain of heroin hydrochloride, and made cold applications to the abdomen. In about an hour I repeated the injection. The pain and hemorrhage then soon ceased, and the patient slept for several hours. Three days later she was up and at work. I delivered her at term of a healthy girl baby.

CASE 11. Mrs. P., aged 26, mother of two children; six months

pregnant. Two weeks previous to my visit she met with an accident and had slight abdominal pains, which lasted about a few hours. When I saw her I found that the pains had begun about three hours before, and recurred every seven or eight minutes. There was no hemorrhage or perceptible dilatation of the os. I gave one-sixteenth grain of heroin hydrochloride hypodermically; and as the pains did not cease in an hour, I repeated the dose. In half an hour she was sleeping quietly. She stayed in bed for three days, and then resumed her domestic duties. I confined her about two weeks ago of a healthy, strapping boy. She is doing well.

CASE 12. Johnny R., aged 4, convulsions from worms. I gave one-sixteenth of a grain of heroin hydrochloride, applying at the same time cold appliances to the head and hot mustard foot-bath. During forty-five minutes the child had two more convulsions. At the expiration of this time I gave one-sixteenth of a grain of heroin hydrochloride again, and the child went to sleep for five hours. I then prescribed a powder of calomel, santonin, and soda, every two hours, until four had been taken; and the next morning ol. ricini 1-2 ounce; ol. terebinthinæ, 25 drops. During the following day the child passed a number of worms and made a good recovery.

As an anti-spasmodic, I know of no remedy that equals heroin used in the manner described.

PURE STRONTIUM SALTS.

BY F. S. MASON, M.P.S.(G.B.).

THE precise investigations of Dr. Laborde, communicated to the French Academy of Medicine and the Society of Biology, prove that pure Strontium salts (Paraf-Javal), far from being harmful, have on the contrary a favorable influence on the phenomena of nutrition.

Laborde found that much of the good which was produced when the strontium preparations were administered, was due to the antiseptic influence exerted on the kidneys and bowels during their elimination. His experiments demonstrated that dogs and other animals grew fat, and that their general health improved, where Paraf-Javal's pure Strontium salts (which are free from toxic Barium) were regularly mixed with their food. Where potassium or sodium salts were fed to the same animals, this effect was entirely wanting; on the other hand, it was soon apparent under such circumstances, that the hair became rough, loss in weight was promptly noted, and sooner or later death resulted.

This bears out the statement of Shoemaker, that "Potassium is a cardiac poison, a muscle and nerve paralyzer (through its influence upon protoplasm), and destructive to the ozonizing function of the red blood corpuscles."

Dr. Leon L. Solomon, in the *American Therapist* of November, 1898, cleverly sums up the advantages of the Strontium salts over the salts of other bases as follows:

(a) "The element, strontium, seems to be not only non-irritating, but actually possessed of a sedative property, which is manifested to a greater or lesser degree throughout all of the preparations of strontium.

(b) It forms chemical union with radicals, to produce preparations identical with those of potassium and sodium.

(c) On account chiefly of their sedative properties, the various salts of strontium may be profitably employed to take the place of the corresponding salts of either potassium or sodium."

Professors Germain See and Fere have shown the absolute innocuousness and remarkable action of strontium salts, the purity of which they considered to be an absolute *sine qua non* for therapeutic efficiency, and, for their own tests, made exclusive use of the strontium salts made by the Paraf-Javal process.

Clinical proof of the advantages of the strontium lactate, bromide, iodide, and salicylate (over similar ammonium, potassium, and sodium salts) is abundant.

Drs. Constantin Paul and Dujardin-Beaumetz found that bromide of strontium (Paraf-Javal) possessed the indisputable advantage of being better borne by the stomach than the other alkaline bromides.

Professor Germain See says: "It never produces any disastrous effect on the stomach even in large doses. Of thirty-two patients suffering from gastric dilatation, all improved and some were altogether cured. It prevents the acetic and lactic fermentations and the formation of the gases of decomposition, relieves nervo-gastric irritation, and controls morbid gastro-intestinal fermentation without causing depression." (*Academie de Medecine*, October, 1891.)

The indications are those of bromide of potassium, in such nervous affections as epilepsy, hysteria, asthma, chorea, paralysis with involuntary agitation, and dyspepsia in its various forms.

Strontium iodide (Paraf-Javal), by increasing intravascular pressure, relieves the nervous irritation of the heart, and thus strengthens its contractions without adding to their number, while as compared with the potassium salt, it is less violent and abrupt in its effects.

The iodide is indicated in vascular affections relating to lesions of the myocardium and intracardiac orifices, asthma, angina pectoris, scrofulous manifestations, eczema, and syphilis.

Lactate of strontium (Paraf-Javal) exercises a favorable influence on the gastro-intestinal functions, hence it is indicated in conditions of depraved nutrition, diabetes and albuminuria.

Dr. Constantin Paul employed it with advantage in visceral congestion (in which it gave better results than lithia) and in Bright's disease, and his observations have been confirmed by others, showing that lactate of strontium (Paraf-Javal) is indicated in parenchymatous, rheumatismal, and epithelial nephritis; in the nephritis of gouty and scrofulous patients, and in the albuminuria of pregnant or recently delivered women. Dr. Bucquoy found that the amount of albumen in the urine was reduced one-half within twenty-four hours after the beginning of treatment.

The essential point in preferring strontium bromide, iodide, lactate, etc., being their absolute purity, those prepared by the Paraf-Javal process only should be used.

These are exempt from even traces of toxic Barium salts, and if tested with a saturated solution of strontium chromate, their solutions do not give even the slightest cloudiness, whereas the impurity of the commercial salts is betrayed by this reagent. Strontium bromide, iodide, lactate, and salicylate are prescribed in the same doses as the potassium, sodium, or ammonium salts, but act more promptly, and in many cases even smaller doses give good results.

The best forms to prescribe are the

Standard Solution of Bromide (Paraf-Javal) 60 grains to oz.

“ “ “ Lactate “ 60 “ “

“ “ “ Iodide “ 30 “ “

Compressed Tablets of Salicylate (Paraf-Javal) 5 grains each.

The solutions are permanent and palatable, and stocked by leading pharmacists.

NOTE ON THE EXAMINATION OF MILK FOR TUBERCLE BACILLI.

BY E. W. HAMMOND, D.V.S.,
Bacteriologist, City Dairy Company, Limited, Toronto.

AFTER having tried various methods for the detection of tubercle bacilli in suspected milks, I can recommend the following as being that which in my hands has given me most satisfactory results.

The milk to be examined should be collected fresh in sterilized bottles, preferably those holding about eight ounces, and these bottles should be closed, not by cork, but by a tampon of (non-absorbent) cotton-wool. Such milk can be examined immediately,

or if it be kept for a time, 2 1-2 per cent. glacial carbolie acid should be added as a preservative, and the bottle be put away in a cool, dark cupboard.

In either case, whether employing the fresh or the carbolized milk, an equal quantity of water is added to the milk, which is then shaken briskly, and samples are taken and centrifugalized. My usual procedure is to take another bottle of the same size and divide the milk between the two, adding to each the equal amount of water.

It is difficult to make any statement as to how soon centrifugalization should occur, different workers employing different forms, which rotate at very various speeds. Using an electrical centrifuge, I generally leave the tubes of milk for at least half an hour.

After centrifugalization, the sediment is removed with a fine pipette, and a drop of this is placed on a clean cover-glass, formed into a film, dried, and then stained by the ordinary method (carbol fuchsin, followed by Gabber's blue). To obtain good results I have found that the method of floating the cover-slip "butter-side down" on the surface of heated carbolie fuchsin in a water-glass is far preferable to the method of pouring the fuchsin on to the surface of the cover-slip and then boiling over a flame.

I may add, that after this dilution of the milk with an equal quantity of water, so little fat material comes down in the sediment that it is unnecessary to use ether or other reagent to dissolve off the fat. Where the cream and surface layers after centrifugalization are examined for the bacilli it is necessary to dissolve off the fats. Using this method, it is my experience that it is a simpler and surer method to examine the sediment.

ANTISEPSIS OF THE MOUTH.

BY C. ROESE.

A LARGE number of mouth washes were tested on subjects who, during the forty-eight hours of the tests, neither ate, drank, hawked, coughed nor talked for any length of time. Each substance was tested at least eight times, some twenty-four. Roese found that tepid physiologic salt solution has considerable bactericidal effect, and recommends it to the sick and poor as an inexpensive and effective antiseptic for rinsing the mouth. Cold substances induce a venous congestion which favors the development of bacteria. He found that the number of bacteria was very much diminished by a meal; the broader the face and consequently the more vigorous the muscles of mastication, the greater the number of bacteria dislodged and carried down into the stom-

ach with the food. Continuous talking also diminished the number of bacteria, and certain articles of food, gooseberries, peaches, cider, have a considerable bactericidal effect. Miller's mouth-wash is the most effective—with the exception of odol—but it must be fresh; otherwise it proves a good culture-medium. Formula: acid. benzoic, 3.0; tint. ratanhæ, 15.0; alcohol, 100.0; and ol. menth. pip, 0.75. One teaspoonful in a wineglass of water for rinsing the mouth. Roese mentions that he cures an inflamed gum by dipping his tooth-brush in 60 per cent. alcohol, and thinks that alcohol will yet assume a more prominent place in antisepsis on account of the great dilatation of the small terminal arteries and capillaries which it induces. (Compare with Buchner, *Journal*, p. 1096.) The tabulated tests show that odol, in either 5 or 10 per cent. solution, is superior to all other substances which are not directly injurious for either teeth or gums, on account of its strong bactericidal properties, its harmlessness and its pleasant taste. It is a brown oily substance with great surface attraction, and spreads out evenly over the lining of the mouth, where it breaks up evenly into salicylic acid and phenol, the same as salol in the intestines. It is, therefore, closely allied to salol and yet is physically entirely different.—*Jour. of Amer. Med. Assn.*

LOCAL ANESTHESIA IN HEMORRHOIDAL OPERATIONS AND ALL VARIETIES OF MINOR SURGICAL WORK.

BY O. W. GREEN, M.D., CHICAGO, ILL.

SINCE there are so many people suffering more or less with hemorrhoids, and since orificial operations along that line have been performed only under general anesthesia, we desire to call attention to the fact that we have formulated a method by which hemorrhoidal operations are painlessly performed without the aid of general anesthesia. The operations are rendered painless by using the local anesthetic "Acestoria."

Our method of operating on hemorrhoidal tumors is as follows: First, the patient is instructed to take a cathartic the night before the operation, and an enema in the morning. With a saturated solution of boracic acid thoroughly cleanse the rectum, using a syringe or otherwise, and then immediately inject every tumor in sight with "Acestoria" until each tumor is not sensitive to the prick of the needle. Sometimes it is best to use the bivalve speculum before, sometimes after injection, and sometimes not at all. It depends upon the condition and location of the piles.

With hemorrhoidal forceps, or Pean's artery forceps, pick up each tumor at its centre, and turn it out.

We generally use the clamp method when possible. Use Keisey's or Pratt's clamp. After turning the tumors slightly outward with the forceps which were left hanging to them, each by turn is clamped at its base.

Then with a straight needle put in two or more stitches, as may be needed, back of clamp.

Remove clamp and cut tumor with straight scissors through the white line made by the middle blade of the clamp. There will be no hemorrhage if this line is followed. The stitches are now tied. Each tumor is thus treated. Then with hydrozone and hot water, one part of the former to five of the latter, syringe or spray the field of operation thoroughly.

The object of using hydrozone is twofold: It is the safest and best germicide and hemostatic we have yet used, and we have tried many. Not being a poison, and depending upon the oxygen it contains for its action, renders it safe under all circumstances, both externally and internally.

As a dressing we have several times used nothing, simply cleansing with hot water and hydrozone.

An ideal dressing is ordinary sterilized gauze moistened with glycozone. Glycozone is anhydrous glycerine saturated with ozone, a powerful germicide and promoter of healthy granulation.

To prevent pain usually caused by the prick of the hypodermic needle, touch the point chosen for insertion with a glass-pointed rod, dipped in 95 per cent. carbolic acid.

To anesthetize the ear and stop earache, incline the patient's head to one side and drop into the ear about five drops of "Accestoria" or sufficient to fill the external meatus.

Use "Accestoria" hypodermically in all cases where incisions or excisions are to be made, such as operations on ingrowing toenails, removal of splinters from the flesh, opening boils, abscesses, carbuncle, etc.—*The Medical Times and Register*.

SACCHAROMYCES CEREVISIÆ IN FURUNCULOSIS.

BY PH. CHAPELLE, M.D.

Ancien Interne des Hôpitaux de Paris.

YEAST (*saccharomyces cerevisiæ*) has long been recognized of therapeutical value in the treatment of furunculosis and certain skin diseases. The principal obstacle in the way of this treatment becoming universal, has been the difficulty experienced in obtaining the yeast fresh and in preserving it free from secondary

changes, which take place with great rapidity and render its distribution almost impossible; indeed, in hot weather, these changes take place from one day to another.

In order to place at the disposal of patients an accurately dosed medicament, not liable to undergo change, a pure desiccated yeast, which occupies but a small volume, and is possessed of the same therapeutical activity as the best fresh yeast, is the best form of administering it.

This is obtainable as Cerevisine in the granulated form, which facilitates its administration and is more reliable than fresh yeast in its effect.

The activity of Cerevisine has been established by numerous clinical observations and, from a chemical point of view, it has been ascertained that in presence of sugary liquids, it gives rise to alcoholic fermentation with the gradual production of carbonic acid gas. These observations show clearly that the desiccation of yeast in no wise impairs its properties. Moreover, it never gives rise, like fresh yeast, to a sensation of heaviness on the stomach or acid regurgitations, so that it may safely be given to dyspeptics.

Cerevisine disintegrates rapidly in water and succeeds admirably in the treatment of furuncles and boils, which promptly subside and disappear under its influence. In cases of acne, urticaria, psoriasis, herpes and eezema, its exhibition has also been followed by excellent results, this effect being associated with a corresponding improvement in the general health.

The dose of Cerevisine is from two to three teaspoonfuls daily before meals. This should be rubbed down with a little water or beer sweetened with sugar.

Montreal Hospital.—The Montreal Medico-Chirurgical Society has given up its determination to fight for the admission of general practitioners to the private wards of the General and Royal Victoria Hospitals. As the matter now stands, only the staff of doctors connected with the hospitals can be called to attend private patients.

Mumps in Pneumonia; Boroglyceride.—Charles W. Dulles treated a case of mumps by the application of a fairly thick compress of surgical gauze saturated with boroglyceride, and covered with a layer of paraffin paper and just enough bandage to keep it in place. Relief of pain and the subsidence of swelling promptly followed the application. The author uses boroglyceride in a variety of inflammatory swellings, and since its use has not had to apply a knife to boil or carbuncle.—*Boston Medical and Surgical Journal.*

Proceedings of Societies.

AMERICAN CONGRESS OF TUBERCULOSIS.

It is announced that the second annual meeting of the American Congress of Tuberculosis will be held at the Grand Central Palace, in the city of New York, on the 15th and 16th days of May, 1901, in joint session with the Medico-Legal Society of New York. That a dinner will be given to the members and guests. It is proposed to open a museum of Pathology, Bacteriology, and Public Health, with an exposition of electrical and other instruments; with the use of the power furnished at the building, which it is intended to be made most complete, educating and attractive; of all appliances used in any way in arrest or treatment of the disease.

The leading manufacturers have enlisted already, many of them, and the display will be on an extensive scale. The objects of the Congress will be to exchange the information and experience gained throughout the world, as to forces and methods most available for the extermination of consumption, which at the present moment is a disease, the most destructive of human life of any that now afflicts humanity.

The medical profession of all countries will be invited to contribute papers to be read before this Congress, in their behalf, by a committee selected for that purpose, in case of the inability of the author to attend, and to enable those who could not hope or expect to be present to participate in the work and usefulness of the body. As the questions to be discussed involve remedial legislation, legislators, lawyers, judges, and all publicists, who take an interest in the subject, are also invited, both to enroll and contribute papers.

The papers should be forwarded to the Secretary at once, and the title of the papers forthwith, to facilitate classification, as the time is short. The enrolling fee will be three dollars, entitling the member to the Bulletin of the Transactions free.

The complete list of officers and committees will be announced as early as possible. The preliminary announcement is now made to obtain the names of those who will co-operate in the Congress, and an early classification of the subjects and titles.

The Governors of the American States and territories, and of

the Dominion of Canada, have been invited to send three or more delegates from each state or province.

The Presidents of the South and Central American Republics have been invited to send delegates, and to take an active part in the work of the Congress, and the Ministers of these Republics at Washington, to designate representatives from their respective countries, and also to furnish information as to the progress of the disease, and what action in the way of preventive legislation or medicine, has been taken to avert it.

The Congress has taken the entire, large, lower floor of the Grand Central Palace for the occasion, with a space for exhibitors of nearly 200 by 200 feet, with committee rooms on the other floors, and the exhibition of electrical and surgical instruments, and the clinical work relating to the disease, will be illustrated by a display we hope may excel any before made in this country.

Contributions from Boards of Health, Hospitals, and the collections of the Government, will be allowed to be shown in the Museum that is hoped to be large and impressive.

Sir James A. Grant will make an opening address at the American Congress of Tuberculosis. He has been elected one of the Vice-Presidents of that Congress for the Dominion of Canada, *vice* Charles Denison, of Colorado, resigned.

Dr. Wm. L. Bullard, of Columbus, Georgia, has been elected a Vice-President of the American Congress of Tuberculosis, for Georgia, to be held at the Grand Central Palace, New York City. His paper is entitled, "The Treatment of Consumption."

Dr. C. F. Ulrich, of Wheeling, West Virginia, has been elected a Vice-President of the American Congress of Tuberculosis, for West Virginia. His paper before that body is entitled, "Suggestions for the Prevention of Tuberculosis from a Personal Observation."

Prof. Dr. Nils R. Finsen, of Copenhagen, a high authority, has forwarded a paper on "Photo-Therapy of Lupus Vulgaris."

Prof. W. A. Hackett, of the Detroit College of Medicine and Surgery, enrolls and contributes a paper on "Lupus."

Dr. Louis H. Debayle, who has been designated by the Nicaraguan Minister as a delegate from Nicaragua, contributes a paper entitled, "The Evolution of Tuberculosis in Tropical Countries."

Dr. John A. Robinson, of Chicago, the Secretary of the Illinois Society for the Prevention of Tuberculosis, has been appointed a delegate to the Congress, by the State Medical Society of Illinois. His paper is entitled, "On the Need of a National Interstate Society for the Prevention and Cure of Tuberculosis."

E. J. Barrick, M.D., President of the Toronto Association for the Prevention and Treatment of Consumption, and other forms of Tuberculosis, one of the leading factors in the Canadian Con-

ference, and a member of the Executive Council of the Canadian Association for the Prevention of Tuberculosis, will take part in the Congress and its discussion. He will undoubtedly be chosen a Vice-President from the Province of Ontario. His paper is, "Practical Solution of the Question of Dealing with the Consumptive Poor."

Ex-Coroner Ellinger, of New York, the Corresponding Secretary of the Medico-Legal Society, has enrolled. His paper is entitled, "Hygiene in Bible and Talmud, and Sanitation in Post-Rabbinical Times."

Dr. U. O. B. Wingate, the Secretary and Executive Officer of the Wisconsin State Board of Health, of Milwaukee, contributes a paper entitled, "Etiological Factors of Tuberculosis, other than *Bacillus Tuberculosis*."

Dr. Cressy L. Wilbur, head of the Department of Vital Statistics of the State of Michigan, contributes a paper entitled, "Recent Statistics of Tuberculosis in Michigan."

Prof. Shrotter, of Vienna, Austria, has sent his paper already, entitled, "Contribution to the Curing of Tuberculosis in Sanatoria."

Dr. T. D. Crothers, of Hartford, Conn., Vice-President of the Medico-Legal Society, and Vice-President for Connecticut, of the American Congress of Tuberculosis, will contribute a paper entitled, "Tuberculosis as a Poison Disease."

Dr. Edwin F. Bowers, of New York, contributes a paper entitled, "Bioplasm in Tuberculosis."

P. M. Dunlop, M.D., of Battle Creek, Michigan, sends a paper, "Vapor Massage in the Prevention and Cure of Tuberculosis."

Dr. Augustus C. Bernays, of St. Louis, Mo., sends a paper, "The Results of Treatment of Tuberculosis by Surgical Extirpation."

Dr. A. E. Aronstam, of Detroit, Michigan, contributes a paper entitled, "A Plea for Stricter Attention to Tuberculosis."

Dr. Albert Strauss, of San Francisco, California, has enrolled; his paper is, "The Heart of Pulmonary Tuberculosis."

Dr. Robert Sangrovauni, of New York, has contributed a paper entitled, "Anemia and Tuberculosis."

Dr. W. Bayard, of St. John, New Brunswick, has been elected a Vice-President of the Congress from that Province, and will take an active part in its work.

How will yow hab yer fish? A raw food society has been formed in Chicago. One of this society's ideas is, "That children reared on uncooked foods will become giants physically and intellectually."

A PSALM OF LIFE.

WRITTEN NOT BY LONGFELLOW, BUT BY ONE OF THE FELLOWS BEING MADE
OVER INTO A LONGERFELLOW.

THOSE who have visited the gymnasium of the Toronto Orthopedic Hospital and observed the extent to which suspension by the head and gymnastic training are made use of in the treatment of spinal deformities, will appreciate the following effusion by a young woman who writes from experience :

Tell me not in mournful numbers
Life is all gymnasium work,
That the girl's depraved who wishes
Hanging by the neck to shirk.

Life is dual ! Life is complex !
And the body's not the whole.
"Thou'rt diseased ! thy spine is crooked,"
Was not spoken of the soul.

Yet not joy nor even sorrow
Seems our destined end or way,
But to stretch, that each to-morrow
Find us longer than to-day.

Class is short, the hour is fleeting,
And our feet in reindeer shoes
Still in Swedish step are beating
On the floor their wild tattoos.

Climb the ladder-wall like squirrels,
Take knee-bending as a treat,
Cross the bar, unlike the poet,
Swinging gracefully your feet.

Trust no chain unless well fastened,
Let your body hang like lead,
Swing, swing from your own steel cross-bar,
Aches within and hooks o'erhead.

Spines of straight men all remind us
We must make our spines as straight,
And departing leave behind us
Photos of our improved state—

Photos that perhaps some other
Half-fledged acrobat may see,
Who will take her best position
Henceforth with new energy.

Let us then be up and hanging
With a neck for any rope,
Don your head-piece and your bloomers,
Learn to hang till told to drop.

The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,

EDITOR,

59 BLOOR STREET EAST, TORONTO.

W. A. YOUNG, M.D., L.R.C.P. Lond.,

BUSINESS MANAGER,

145 COLLEGE STREET, TORONTO.

Surgery—**BRUCE L. RIORDAN, M.D., C.M.**, McGill University; M.D. University of Toronto; Surgeon Toronto General Hospital; Surgeon Grand Trunk R.R.; Consulting Surgeon Toronto Home for Incurables; Pension Examiner United States Government; and **F. N. G. STARR, M.B.**, Toronto, Associate Professor of Clinical Surgery, Lecturer and Demonstrator in Anatomy, Toronto University; Surgeon to the Out-Door Department Toronto General Hospital and Hospital for Sick Children.

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Clinical Medicine—**ALEXANDER McPHEDRAN, M.D.**, Professor of Medicine and Clinical Medicine Toronto University; Physician Toronto General Hospital, St. Michael's Hospital, and Victoria Hospital for Sick Children.

Mental Diseases—**EZRA H. STAFFORD, M.D.**, Toronto, Resident Physician Toronto Asylum for the Insane.

Public Health and Hygiene—**J. J. CASSIDY, M.D.**, Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon Toronto General Hospital; and **E. H. ADAMS, M.D.**, Toronto.

Physiology—**A. B. EADIE, M.D.**, Toronto, Professor of Physiology Woman's Medical College, Toronto.

Pediatrics—**AUGUSTA STOWE GUILLEN, M.D.**, Toronto, Professor of Diseases of Children Woman's Medical College, Toronto.

Pathology—**W. H. PEPLER, M.D., C.M.**, Trinity University; Pathologist Hospital for Sick Children, Toronto; Demonstrator of Pathology Trinity Medical College; Physician to Out-door Department Toronto General Hospital; Surgeon Canadian Pacific R.R., Toronto; and **J. J. MACKENZIE, B.A., M.B.**, Professor of Pathology and Bacteriology, Toronto University Medical Faculty.

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Laryngology and Rhinology—**J. D. THORBURN, M.D.**, Toronto, Laryngologist and Rhinologist, Toronto General Hospital.

Address all Communications, Correspondence, Books, Matter Regarding Advertising, and make all Cheques, Drafts and Post-office Orders payable to "The Canadian Journal of Medicine and Surgery," 145 College St., Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the fifteenth of the month previous to publication.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the tenth of the preceding month.

VOL. IX.

TORONTO, MAY, 1901.

NO. 5.

Editorials.

TREATMENT OF PUERPERAL ECLAMPSIA.

THE mortality from puerperal eclampsia in Ontario for 1899, being 66, it will be profitable to consider the treatment of this alarming complication of the puerperal condition.

As in many other disorders, prevention is better than cure, and an obstetrician would do well to examine the urine of his prospective patient betimes, instituting proper dietetic and medicinal treatment should there be any evidence of albuminuria. Unfor-

tunately the opportunity may not occur until eclampsia declares itself. What then should be done? Professor Gaulard, of the obstetrical clinic of Lille (France), says that practitioners are divided in opinion on this question, some favoring a speedy emptying of the womb and others relying on a purely medical treatment. If the patient is in a perilous condition, and he fears that she may die before labor is complete, Gaulard empties the womb. In some cases Steinbrenner's method of dilating the os uteri may be tried, that is to say, a sponge tent is introduced through the os uteri of the patient, and warm water is injected every quarter of an hour into the vagina to cause rapid swelling of the sponge. In Steinbrenner's first case (A.D. 1845), after the os uteri of the eclamptic patient had been dilated to the size of a silver dollar by this method, further dilatation was accomplished by the accoucheur's hand, and the child was delivered by version. In vertex presentations, dilatation of the os uteri by the use of Barton's bag is difficult. When the os uteri is closed and the cervix is long, dilatation is difficult. In such a case, immediate action being necessary to save the patient's life, Gaulard incised the two commissures of the cervix uteri down to the vaginal insertions. The cervix being then drawn down by a vulsellum forceps, he began digital dilatation of the os uteri, and terminated labor by version in forty-five minutes. The fetus was dead, and appeared mortified. Three or four convulsions appeared after delivery. A few points of suture were placed in the severed cervix, and union by the first intention ensued. The patient recovered, and left the hospital in a satisfactory condition, except that her urine still contained albumen (2 grammes to a litre of urine). In a second case the patient, who was in labor when admitted, presented marked signs of albuminuria, but did not have convulsions until the dilatation of the os was complete. The attendant ruptured the membranes, and the child was born living in half an hour. Ten convulsions occurred after delivery, but the patient recovered, and was ultimately discharged in good condition, with no trace of albumen in the urine. In a third case (primipara at the seventh month) there was no sign of labor on admission. The patient was in a state of profound coma, for which leeches had been applied to the mastoid processes. Venesection and the rectal administration of chloral were tried after admission, in spite of which a few eclamptic seizures occurred, there being no sign of labor. Gaulard did

not undertake to bring on premature labor, because the patient's condition did not appear to be dangerous. He therefore relied on medical treatment (not specified), and the convulsions passed off in two or three days. Labor began spontaneously, and the patient was delivered of a fetus, which was already somewhat mortified. This patient recovered completely, and had no trace of albumen in her urine on leaving the hospital. Gaulard makes the observation that the first of these patients had a pre-existing nephritis as the outcome of scarlatina caught at the age of ten years. The third patient had had measles, but not scarlatina. In his opinion, therefore, a prior nephritic lesion is causative in the evolution of eclampsia.

Gaulard recognizes the large infantile mortality in cases of eclampsia, viz., 80 per cent. in cases where no intervention is practised; 20 per cent. where artificial labor is induced (Fieux). He is opposed to Cæsarian section, without having obtained the mother's consent, or even to symphysiotomy, the mortality from which, perhaps, is yet rather high. He prefers embryotomy, evidently considering the life and health of the mother of greater importance than that of the child. At the Burnside Lying-In Hospital, Toronto, if it is thought proper to induce premature labor in a case of eclampsia, a soft catheter is passed through the cervix uteri, and sterilized glycerin is injected into the womb. Labor comes on generally in twenty-four hours. The treatment of the eclamptic condition is largely medicinal. The patient is purged freely, one ounce of magnesium sulphate being given at first, followed by drachm doses of the same, until free catharsis is developed. Or purgation is kept up by the use of compound jalap powder. Chloral per rectum has been found useful. Morphine is given hypodermically in doses of gr. 1-4 every half hour till convulsions cease. As convulsive seizures have been noted in patients after delivery, more importance is attached to medicinal measures than to the induction of premature labor. In addition to cathartics, large draughts of water are given to the patient. The saline solution (0.7 per cent.) is also employed subcutaneously. A small incision is made with a tenotome through the skin of the abdomen, and the warm saline solution is allowed to flow into the subcutaneous tissues through a canula attached to an enema-bag. Milk diet is employed. In asthenic cases *veratrum viride* has been used with advantage.

J. J. C.

THE MEDICAL COUNCIL IN CANADA.

It would be superfluous to repeat what has already been set forth at length in the medical and secular press respecting Dr. Roddick's bill, except to state, in general terms, that it provides for the establishment of a central Medical Council in Canada, whose license would confer the right to practise medicine in the Dominion, and also in the United Kingdom, together with entry to medical service in the Imperial army and navy. A measure of reform in the right direction, one would suppose that it would be received with general acclaim. We think, however, that the Quebec Universities, viz., McGill, Laval, and Bishop's, will oppose it for a reason similar to that which actuated them in opposing interprovincial registration eight years ago. Had interprovincial registration been carried, a Provincial Medical Council, with power to license, would have been established in Quebec, and from that time forward the medical diplomas of the Quebec Universities would no longer confer the right to practise medicine in Quebec. A similar, though less strenuous, objection would be raised by these same universities to a license-granting central Medical Council. It seems clear also, that such a Council would soon ring the deathknell of Provincial Medical Councils and their strictly limited medical licenses. Opposition to Dr. Roddick's bill would therefore come also from the Provincial Medical Councils. Looked at from the standpoint of the greatest good to the greatest number, the medical electorate of Canada might settle the question, irrespective of the views of this, that or the other university or corporation. The simplest way of voting on this question would be for every doctor in Canada to send a postal card to his representative in the House of Commons, indicating his preference for or against Dr. Roddick's bill.

Another solution, complementary perhaps, is offered. The Medical Act (1858) Extension Bill, now before the British House of Commons, is described as one to extend the provisions of the Medical Act (1858), and consists of a single operative clause, which would add to Schedule A of the Act of 1858, after paragraph 11, the following:

"Doctor, or Bachelor, or Licentiate of Medicine, or Master in Surgery of any university or medical school in the Empire, at

which the curriculum of studies and the examinations required to be passed by the undergraduates shall be accepted and recognized by the General Medical Council, as equal in all respects to the requirements from students and candidates for degrees in the institutions shown in paragraphs one to eleven of Schedule A."

By such an enactment licentiates of any medical school in Canada, as well as medical graduates of the universities of the Dominion, would be admitted to the British Register, and thereby entitled to practise as civil surgeons in any part of the United Kingdom, as well as to act as surgeons in the public service.

A great concession, certainly; and should Dr. Roddick's bill carry, a mutual interchange of the privileges inherent in medical licenses could be established between the mother-land and Canada. In the other event, holders of Provincial licenses in Canada could not expect to obtain the privileges of British registration, without examination, as long as a corresponding status in a Canadian Province is refused to the holder of a British medical qualification. What the outcome of complementary British and Canadian medical legislation may be is somewhat puzzling. Speaking generally, we think that if Canadians want British qualifications, they should win them by examination. If they feel that they suffer a privation in not possessing British registration, then they should support Dr. Roddick's bill, and, by inference, reciprocity in medical legislation with Britain.

Judging by the tendencies of State medical legislation in the United States, there is not much likelihood that inter-state medical legislation will be established in that country. Membership in the American Medical Association does not carry with it the right to practise in any State of the Union. New York physicians are not allowed to practise in New Jersey, unless licensed in the latter State. A similar condition of affairs exists in the Canadian Confederation, and similar restrictions confine practitioners to their respective Provinces. It is quite likely, therefore, that the minor measure of relief sought for in Dr. Roddick's bill will not be obtained, and that physicians practising near the contiguous borders of adjoining Provinces will have to be extremely careful not to be caught poaching, and they may not solace themselves with the reflection that, if they tire of Canada, they can try the United Kingdom.

J. J. C.

A HIGHER MEDICAL STANDARD.

THE action of the medical department of McGill University in making the matriculation examinations doubly difficult has been a subject of comment and almost universal commendation on the part of Canadian physicians. Soon, we hope, our other medical colleges throughout the length and breadth of the land, in the United States and Canada, may follow the good example set them by old McGill.

To reiterate the statement, "the medical profession is overcrowded," is simply to make our small world weary by a vain repetition; to say that too many young men are forsaking the plough for the scalpel is a remark as current as "greater than has been;" to say that even a five years' quick march through a medical school is a sufficient and broad enough education for the man who holds life's threshold in his hands, and whose skill and knowledge is all that stand between one and death, is almost an absurdity. Some one has said that it takes five generations to produce an English beauty; but to prolong or save the life of that lady often a young man is taken off his farm, and, magician-like, swallowed by a medical college, and speedily returned to the gaping public, a doctor. A nice little trick, well done, and at the doctor's entrance to the ranks of the profession, every other physician must crowd up to make room for him, and another chance looms up to repeat the trite phrase which McGill, hurrah for her, is going to help make obsolete, "the profession is overcrowded."

We do not wish to make sweeping statements, nor despise any man's lack of opportunity to obtain a good education in early life, and so the question obtrudes itself, "How will the new *regime* of harder examinations and perhaps, ere long, a six years' medical course, affect the poor man, who has brains, and who may prove an ornament to his class and an honor to his profession? Will he be able to afford the time and expend the necessary money during that period? We think the really clever and determined student will do just as his predecessors have done from time immemorial—surmount every obstacle.

The still further lengthening of the term of study, which we hope for, and the making of the matriculation examinations more difficult, will be good and wholesome for us all. Student (with his

shingle out many a long day ago bearing the legend, "Physician and Surgeon"), who has found that the book can never close over if he keeps abreast with the privileges of study in the field of research and invention; student, with aching brow dreaming of a to-morrow; poor dunce of a student, and his dwarf of a brother, "smart Alee," who knows it all—let us one and all take our measure:

"And fear not lest Existence closing your
Account, and mine, should know the like no more;
The Eternal Saki from that Bowl has pour'd
Millions of Bubbles like us, and will pour."

W. A. Y.

YELLOW FEVER AND STEGAMINA.

It has been determined by a board appointed by the Surgeon-General of the United States army for the purpose of pursuing scientific investigations with reference to the acute infectious disease prevalent in Cuba, that the *Culex fasciatus* mosquito (Genus *Stegamina*) serves as an intermediate host for the parasite of yellow fever, and that the latter disease is only propagated through the bite of this insect. (*Vide* Additional Note upon "The Etiology of Yellow Fever," read before the Pan-American Medical Congress in Havana, and published in the *Journal of the American Medical Association*, February 16th, 1901.)

It is stated by the Commission that yellow fever is transmitted to the non-immune individual by means of the bite of a mosquito that has previously fed on the blood of those sick with the disease, and it appears necessary that an interval of about twelve days must elapse before the mosquito is capable of conveying the infection. The period of incubation is said to be from forty-one hours to five days and seventeen hours. Experimental yellow fever was also produced by the subcutaneous injection of blood taken from a patient during the first and second days of the disease.

While the mode of infection is thus established, the specific cause of the disease remains undiscovered, thus disposing of Sanarelli's claim.

It is further stated, that as yellow fever is not conveyed by fomites the disinfection of articles of clothing, bedding, or merchandise, supposedly contaminated by contact with those sick with yellow fever, is unnecessary. Also that the spread of the disease

must be controlled by measures directed to the destruction of the mosquitoes, and the protection of persons against the bites of these insects.

From this last statement we are led to infer that the identical protective methods, so successfully adopted against the anopheles as a purveyor of malaria, would also apply to the *Culex fasciatus* in the repression of yellow fever. For many years sulphur fumigation has been employed in outbreaks of yellow fever, and with apparent advantage, although the true reason of its beneficial effects was probably misunderstood. The reason of its success is probably because fumes, sprays, or washes containing sulphur are inimical to the growth and development of mosquitoes. Thus it has been observed in Greece that the spraying of grape-vines with sulphur washes reduces malaria among the inhabitants, probably because sulphur is inimical to mosquitoes. While every effort should be made to prevent the bites of mosquitoes by the use of nets over beds, etc., the burning of sulphur in infected houses, and other localities, assists in accomplishing the same end only in a different fashion.

J. J. C.

EDITORIAL NOTES.

Treatment of Pneumonia by Anti-Diphtheritic Serum.—

A rather strange application of anti-diphtheritic serum to the treatment of pneumonia has been announced (February 22nd, 1901) by Dr. Talamon, of the Bichat Hospital, Paris. He thinks that the use of anti-diphtheritic serum acting on the cells of the organism has an excito-phagocytic action, which is favorable in the treatment of infectious diseases, more particularly pneumonia. He treated fifty cases of pneumonia at the Bichat Hospital, with seven deaths; *i.e.*, a mortality of 14 per cent., and of these fifty cases, forty-two were undoubtedly alcoholics. The good effects of the treatment were all the more marked in proportion to the early use of the injections of serum. Defervescence began on the second day by lysis and not by crisis.

The technic of the injection is as follows: Twenty cubic centimetres of anti-diphtheritic serum are injected morning and evening until improvement is noted.

A number of queries might be asked. For instance: (1)

Would not non-immunized horse-serum answer just as well? (2) Would not saline injections (strength 0.7), given subcutaneously, answer as well? Whatever replies may be made, it may be taken for granted that Dr. Talamon is not ignorant of the advantages resulting from these latter forms of treatment. The clinical fact remains that he employed a treatment for severe pneumonia which has yielded in his hands a marvellous result, when we consider that "the alcoholic patient with pneumonia rarely escapes death" (Anders).

As the concentrated anti-diphtheritic serums of American manufacturers are employed among us, Canadian physicians may feel disposed to use the same amounts in pneumonia as they are accustomed to employ in cases of diphtheria.

Until the first in order of the queries mentioned above is answered, it would be more prudent, however, to follow the technic of Dr. Talamon, who used Roux's anti-diphtheritic serum.

Duration of Life in Koch's Bacillus.—The bacillus of Koch lives from six months to a year in damp places, which are not much exposed to light, and also in rooms facing towards the north, which receive only reflected sunlight. Exposed to strong sunlight, the duration of life in virulent bacilli of Koch is exactly two hours and a half. After an exposure of the bacilli to destructive rays of solar light for that length of time cultures of these bacilli remain inert. The beautiful and ingenious experiments of Strauss on this point are very conclusive and significant. Dr. Pujade says ("La Cure Pratique de la Tuberculose"): "These experiments explain the large mortality from tuberculosis in damp cities such as Lyons, Lille, etc., and the relative rarity of the disease in the sunlit regions of the south of France. They explain why our Pyrenean and Mediterranean health resorts which should have become hot-beds of bacilli prior to the introduction of the night spit-box, the pocket spit-box, and general practices of disinfection, have not only not become noted for the destruction of their population by tuberculosis, but have produced only a very few cases of tuberculosis in the native population. At Amelie-les-Bains the mortality from tuberculosis in the native population has not reached five per cent. of the total mortality, whereas in the cities of the rest of France the mortality from tuberculosis is twenty-five per cent. of the total mortality. What is still more remark-

able is that I have rarely observed attacks of meningitis or tubercular peritonitis, those scourges of weakly children. The authorities of the greater part of our southern health resorts could, if they wished, publish equally brilliant statistics."

Danger Rates of Chloroform and Ether.—The British Medical Association's Anesthetic Committee reported last summer, dealing only with general anesthetics. There were eighteen deaths under chloroform anesthesia, of which three are considered to have been entirely due to the anesthetic, and four to the anesthetic principally and to the patient's condition secondarily, while in the eleven others, either there was doubt as to the relative shares taken by the three elements—the anesthetic, the patient's condition, and the operation—or death was distinctly due to one or both of the two other causes, rather than to the anesthetic. Three deaths are reported as having occurred under ether anesthesia, but none of them was held to be due entirely to that anesthetic. The Committee find that with chloroform the danger rate is 0.582 per cent., and with ether one of 0.065 per cent., thus supporting a generally entertained opinion, that chloroform is the more dangerous of the two drugs.

Calcium Chloride in Hemorrhagic Variola.—This drug, which has been much used in cases of hemophilia is favorably noticed by Dr. Roger, of Paris, as useful in cases of hemorrhagic variola, or in cases of variola in which the pustules become hemorrhagic. Having used doses of twelve grammes per diem without injury to the patient, he finds that half that quantity will suffice to produce a hemostatic effect. He prescribes a dose of from 2 1-2 to 3 3-4 grains of calcium chloride every hour, the drug to be prepared in a mixture with syrup aurantii and distilled water. Brandy may be added to the mixture if thought advisable. According to the *British Pharmacopeia*, the dose of calcium chloride is 5 to 15 grains. In hemorrhage, after tooth extraction, Turner (*Treat's International Annual*, 1900) recommends large doses of calcium chloride (gr. 60). Probably, if given every hour, small doses would answer.

New York Public Baths.—We find from the *New York Sunday World*, that in the first week and a half of New York's free

baths on Rivington Street, in the heart of the lower east side, 15,000 persons were patrons. Out of 3,000 bathers the first few days, 1,500 were women. Between seven and four are the children's hours. One little fellow, ten years old, solemnly remarked to an attendant that he had never taken a bath in his life before; the only time in his memory when he had been wet all over was from the spray in a leaking fire-hose, and he had fallen into the puddle on the other side. At these baths the city furnishes the soap but not the towels. One of New York's leading citizens remarked: "New York has one public bath properly equipped; it must have more speedily. They are of more importance to the city than Carnegie's libraries." In Buffalo, a fine bath-house is established, and thronged all the time. What about Toronto, Mr. Gage? Surely it isn't "up to us" to be spoken of as the city of Godliness, with the *next* still called for.

Apocodeine Hydrochlorate as a Remedy for Constipation.—This remedy has been recently employed successfully in the treatment of occasional and habitual constipation in thirty cases by Professor Combevale of Lille (France). He prefers the hypodermic route, and his formula is as follows:

Apocodeine Hydrochlorate	50 centigr.
Distilled Water	50 grammes.

The quantity injected is generally two cubic centimetres, and the dose of the drug absorbed would be about two centigrammes (1-3 grain). It increases peristaltic movements and intestinal glandular secretions, and its laxative effect is said to be sure and rapid.

The Ontario Medical Association.—The 21st annual meeting of the Ontario Medical Association will be held in this city on the 19th and 20th of next month. Anyone desiring to read a paper will kindly forward the title of the same to the Secretary at once. Papers, or abstracts of the same, must be in the hands of the Committee by May 25th. Fifteen minutes is allowed for the reading of a paper; if too long to be read in this time an abstract may be presented. Dr. H. T. Machell is Chairman Committee on Papers, and Dr. H. C. Parsons, 72 Bloor Street West, is General Secretary.

PERSONALS

DR. J. DUNCAN has removed to No. 45 Bloor Street East.

DR. NATTRASS is once more able to be around after his recent illness.

DR. GEO. A. PETERS is to be commanding officer of the Canadian Mounted Rifles.

DR. CATTERMOLLE, of Cecil Street, intends spending the next four months in New York City.

WE are glad that Dr. W. P. Caven is recovering his strength after his attack of appendicitis. Dr. Caven hopes to leave for England soon for a complete rest.

DR. EZRA H. STAFFORD has returned to Toronto after his trip with the Labrador sealing fleet. He appears to be in the pink of condition, and says he is going to buckle down to work in earnest.

DR. PRICE BROWN returned to Toronto about a month ago, after spending the winter in the South. The Doctor has been completely restored to health, and resumed practice at once on his return.

DR. E. N. COUTTS, the present holder of the George Brown Memorial Scholarship, in Toronto University, has just been appointed to the Colonial Fellowship in Bacteriology at University College, Liverpool.

SIR JAS. A. GRANT will give an address at the opening of the Congress of Tuberculosis in New York this month. Sir James has been elected Vice-President for the Dominion. Dr. W. Bayard has been elected for New Brunswick.

DR. CLARK BELL, of New York, who has been doing such magnificent work in connection with the Congress of Tuberculosis, which convenes in New York this month, has concluded arrangements for reduced rates of transportation to and from the United States metropolis.

DR. J. G. ADAMI, Professor of Pathology at McGill University, Montreal, has been appointed vice-president of the section of Pathology and Bacteriology of the International Congress on Tuberculosis, to be held in London in July, under the patronage of King Edward. Dr. Adami will attend.—*Med. Rec.*

THE Eastern office of the Abbott Alkaloidal Co., in New York City, has been removed to 100 William Street. The new quarters are located more conveniently, and are much more commodious, and afford better facility for the handling of the rapidly-increasing business of this office. Eastern patrons of the Abbott Alkaloidal Co. will kindly note this change of address.

Obituary

DEATH OF DR. CHARLES W. COVERNTON (1813-1901).

DR. CHARLES WILLIAM COVERNTON, who died at his residence, 404 Huron Street, Toronto, April 14th, at the age of 88, was well and favorably known in this city and throughout the Province. He was born at Penton Place, Walworth, England, 1813. He graduated as M.D. at the University of St. Andrews, Scotland, in 1835, and became a member of the Royal College of Surgeons, England, during the same year. He came to Canada in 1836, and settled at Vittoria. In 1847, Dr. Mackelcan having removed to Hamilton, Dr. Covernton purchased his property at Simcoe, succeeding to his clientele, retaining at the same time a good deal of his own in the Township of Woodhouse. In 1869, Dr. Covernton was elected the territorial representative of the Gore and Thames Division of the Council of the College of Physicians and Surgeons of Ontario. He was Vice-President of the same body, 1870-71, and President from June, 1871, to December of the same year, when he resigned, in consequence of having been appointed to a chair in the Medical Branch of Trinity University. In the spring of 1882 he was appointed a member of the Provincial Board of Health, and was subsequently the Chairman, in succession to Dr. Oldright.

Dr. Covernton married in 1840 Frances Elizabeth, daughter of Hutchins W. Williams, Merrion Square, Dublin, a banker, since deceased. He had nine children, four of whom survive him. Handsome in face and form, courteous in manner, mentally bright, Dr. Covernton produced a most agreeable impression on his professional friends. He was also a very successful practitioner. During his later years, he devoted much time and study to the advancement of hygiene in Ontario, and was deservedly esteemed by his colleagues of the Provincial Board of Health of Ontario. He represented that Board at the Geneva Convention of Hygiene in 1882, at the Berlin International Congress of Hygiene in 1890, and was one of the delegates to London International Congress of Hygiene in 1891.

DR. J. ARCHER WATSON'S TRAGIC DEATH.

THE medical profession of Toronto were terribly shocked in taking up the evening papers on April 11th, to read of the terrible death of one of Toronto's medical practitioners, in the personality of Dr. J. Archer Watson, who for about fifteen years has practised in this city. The Doctor was riding a spirited horse, and had just crossed the railway tracks west of Toronto Junction. The animal took fright and backed in front of a swiftly moving engine, causing instant death to both rider and horse. We beg to tender our sincerest sympathy to the bereaved family.

DEATH OF MR. WILLIAM R. WARNER.

WE have received the following formal announcement of Mr. W. R. Warner's death last month:

"It is with feelings of profound sorrow that we announce the death of our senior, Mr. William R. Warner, which occurred on the morning of Wednesday, April 3rd, 1901. His business career, covering a half century, was not only long, but honorable, and his impulses as a man were kindly and generous. We feel that his loss is not ours only, but will be shared by all who came in contact with him in either trade or social circles.

"WILLIAM R. WARNER & CO.

"Philadelphia, April 4th, 1901."

We wish to extend every sympathy to the firm in so great a loss.

Deaths Abroad.—The death of G. A. Nordlund, professor of anatomy at Upsala, is announced, and that of C. J. Rossander, professor of surgery at Stockholm; of O. von Heusinger, professor of legal medicine and pediatrics at Marburg, and of J. Homan, assistant superintendent of the Kiel Institute of Hygiene.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

SOME PROOFS THAT COMPULSORY VACCINATION IS INEFFECTUAL.

To the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY:

DEAR SIR,—In 1853, Lord Lyttleton, in speaking to his bill, said: "It is unnecessary for me to speak of the certainty of vaccination as a preventative of small-pox, that being a point on which the whole medical profession has arrived at a complete unanimity." On the strength of this assertion the bill became law. Let us see if vaccination is so certain a preventative. The writer* of the September article in the JOURNAL states, in Proposition No. 1, that "Vaccination always protects against small-pox in recently vaccinated cases." Will statistics bear this out? In 1775 the King of Prussia gave his sanction for the inoculation of eight healthy orphans with small-pox. The operation was performed by an experienced inoculator, and yet none of the children showed any symptoms. These eight, with four others, were again inoculated, and again with no success. Finally, these twelve and seven others were inoculated, and exposed to small-pox, and yet all escaped contagion. Does not this show that immune persons are not so uncommonly found as some people are led to believe. Might not Jenner have chanced to happen on immune patients? The question is at least open for debate.

Again, in 1891-95, 474 cases of small-pox occurred in children under five years of age in England; 1880-90, 713 cases occurred in the British army in India; 1882-89, 221 cases occurred in the British army in Egypt; 1835-87, 7,505 cases occurred in the German army, all of which cases occurred in healthy vaccinated and revaccinated adults, and in the German army twenty insertions were ordered for each patient.

Concerning the Sheffield epidemic of 1887-88 much debate has taken place. During these years the city paid in cash vaccination bonuses over \$1,840.00, and the city was considered one of the most carefully vaccinated cities in England. Yet during the epidemic of thirteen months there were 6,088 cases of small-pox, of which number 5,035, or 83 per cent., were in confessedly vacci-

* "Some Proofs that Small-pox is Prevented by Vaccination," by W. F. Elgin, M.D., Glenolden, Pa., CANADIAN JOURNAL OF MEDICINE AND SURGERY, September, 1900.

nated cases. In Dr. Barry's report to the Local Government Board there is an important underlying fallacy, inasmuch as the census was not taken until the epidemic was far advanced, and a considerable transference had taken place from the unvaccinated to the vaccinated classes. To show how this could affect the census, let us take a simple example. In a village of 100 inhabitants, let there be 90 vaccinated and 10 not vaccinated, and suppose small-pox to appear, and to last a month, and to attack 10 per cent. of each class. Then

Vaccinated, 90 ; cases, 9 ; or 10 per cent.
Unvaccinated, 10 ; cases, 1 ; or 10 per cent.

Now, during the month, let 8 of the 9 remaining unvaccinated be vaccinated. Then a census at the end of the month would show

Vaccinated, 98 ; cases, 9 ; or 9.1 per cent.
Unvaccinated, 2 ; cases, 1 ; or 50 per cent.

And on a similar census Dr. Barry founded his report!

The percentage of vaccinations to births during 1892-94 in Leicester was from two to four per cent. Keighley was also poorly vaccinated, while at Warrington over 94 per cent. of the children were vaccinated, and at Sheffield over 80 per cent. were vaccinated, and yet the well vaccinated cities suffered more than those that were not vaccinated so completely.

Year.	City.	Attack-rate per million.	Death-rate per million.
1887-88	Sheffield.....	22,590	2,171
1892-93	Warrington.....	12,481	1,204
1892-93	Leicester.....	1,924	114
1893	Keighley.....	2,245	218

Another quotation from Dr. Barry's report reads: "Of 8,198 persons revaccinated prior to the epidemic . . . 25 were attacked, . . . with a death-rate of 0.1 per cent.; while of 56,233 persons who were not revaccinated . . . none died." According to this, revaccinated persons are more liable to contract small-pox than are those vaccinated in infancy.

Prevaccination times were inoculation times, and it stands to reason that the death-rate among infants inoculated with small-pox would be greater than the death-rate among adults treated in the same manner. Small-pox is not unique in showing a decrease in infant and child mortality with an increase in adult mortality. The Registrar-General's fifty-fourth report shows a similar change in the influenza epidemics of 1847-48 and 1890-91, the only difference being that the adult increase was more marked in the case of influenza. In typhoid and typhus we find a marked decrease in infant mortality between the years 1871 and 1890.

The under five death-rate decreased 36.9 per cent. in small-pox; 46.8 per cent. in typhus; 56.8 per cent. in typhoid. In pre-vaccination times, eighteenth century, of 13,000 cases, Jurin found the death-rate to be 17.5 per cent. From 1746-63, nearly 25 per cent. of the cases treated in the London Small-pox Hospital ended fatally. During the present century, with all its wonderful advancement in medicine and sanitation, the vaccinists would try to have us believe that from 5 to 50 per cent. of the unvaccinated die who may be attacked with small-pox. So much for modern treatment!

A smaller death-rate from small-pox does not naturally follow in places where vaccination has been enforced. Compare, for example, the well revaccinated British army and navy, and poorly vaccinated Ireland, of which the medical commissioners said that a large proportion of the population was "unprotected by vaccination" (second Report, O. O. 3059 to 3075):

Army (1864-64).....	Mean annual death-rate, 58 per million.
Navy (1864-94).....	" " " 90 "
Ireland (1864-94) ages 15 to 45.....	" " " 65.8 "

Again compare Leicester, well known to be poorly vaccinated.

Army (1873-94).....	Small-pox death-rate, 37 per million.
Navy (1873-94).....	" " 36.8 "
Leicester (1873-94) ages 15 to 45.....	" " 14.4 "

In reference to the statements concerning the French army, something may be said. In June, 1883, Sir Lyon Playfair, in the House of Commons, made a statement that 23,000 French soldiers had died of small-pox during the Franco-Prussian war. This being contradicted, Dr. W. B. Carpenter communicated with Earl Granville, then in Paris, and received a reply stating that the French authorities had announced that the deaths from small-pox in the army during the war were not known, as the confusion was too great for registry. Later on, in the *London News* of August, 1883, Dr. Carpenter honorably and publicly showed Sir Lyon Playfair's statement to be untrue, and yet this argument is used on every possible occasion at the present time.

The official report of the French losses during the war states that "144 officers and 10,942 men died from all diseases."

Space does not permit a detailed criticism of all the tables and figures in the September article, but some are too grossly misleading to be passed over.

In the table of London mortality from small-pox the following is stated:

1854-71, average annual death-rate was 388 per million.
1872-82, " " " " 262 "

By classing epidemic years with years during which little small-pox prevailed in London, the above figures are arrived at. It is well known that during 1870-72 the death-rate from small-pox was over 2,500 per million, but by separating these years the death-rate from small-pox is made to appear as constantly decreasing, and yet London was a well-vaccinated town prior to 1870.

For years inoculation was endorsed and practised by physicians, but the mistake was discovered and the doctors proved to be wrong. Even so may not the great body of the medical profession be in the wrong to-day?

E. A. P. HARDY, M.D.

605 Spadina Avenue, Toronto.

THE WOMAN'S HOSPITAL.

To the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY:

DEAR SIR,—A very urgent appeal is being made, especially to the sympathies and benevolence of the gentler sex, for funds to establish a hospital exclusively for women. No one need doubt the ability of the fair sex to accomplish this rather arduous undertaking, when we see what they have done in other fields, *e.g.*, missionary and philanthropic work. It is only in regard to some phases of this question that doubts perturb the masculine mind, and it is the purport of this communication to very briefly refer to two or three of these.

The issues that invite some discussion may be classed under two heads: (1) Ethical; (2) Practical. The ethical phase, which seems to be the one that is inspiring this movement, places great stress upon the impropriety, immodesty, or feeling of revulsion, whichever term may be used, involved in having women obliged to consult male physicians *re* diseases of the genetic system. It may be conceded that there is something to be said on this line, but let us place the fault for the existence of this undesirable sentiment where it properly belongs. Innate modesty would not deter any woman—in fact, very few women are deterred—from seeking the aid of medical skill irrespective of the sex of the physician, were it not from false views, the result of (1) ignorance in regard to the proper functions of the genetic system, and (2) to the morbid reserve, that is so religiously inculcated. It is quite fashionable to talk, ever so glibly, about nerve, heart, lung, or stomach trouble, but the strictest censorship must always be kept up lest any reference should ever be made to the sexual functions.

Now, instead of establishing a special hospital that can only accentuate and perpetuate this pernicious delusion, let us impress upon parents and teachers the duty of imparting to youths and

maidens, at puberty, a proper knowledge of the sexual functions. Such knowledge would enable them to realize, as they grow older, the beneficent influence normal genetic conditions have on their mental, moral, and physical well-being. It is desirable that they should know, that of all the potentialities of the human body, none so nearly approach a divine attribute as the power to pro-create an immortal being. Teach them, too, that disease of the sexual organs, or an immoral use of their functions, may rapidly lead to physical or moral disaster.

Again, if any further proof be needed, that the dislike of a female to seek medical aid from a male physician is not due to innate modesty, but to ignorance, such proof can be abundantly furnished from experience with patients having heart or lung trouble. Ask a youth or maiden who has been examined by a scientific physician to prepare his or her chest for examination. Without the slightest consciousness of impropriety the chest is uncovered. On the other hand, if this patient had been examined by a careless, unscientific physician, he or she would resent even the removal of the outer clothing. Here ignorance has begotten a morbid sensibility—a base counterfeit of innate modesty, whereas in the former case innate modesty gracefully pays its loyal homage to science.

Are we then not fully justified in concluding that it is not innate modesty, but a morbid sentiment, that deters a patient, male or female, from consulting a physician *re* genetic troubles? We do not believe this conclusion can be successfully controverted, and therefore the appeals—that are being so persistently made to the ethical phase of this question—do not merit any consideration, as they are so evidently based on a delusion.

Coming now to the practical phases of this question that invite discussion, we may consider them under two heads: (1) The need for a special institution of this kind; (2) The probabilities of its success.

In regard to the need for another hospital, we have in Toronto at present a sufficient number of well-equipped hospitals. The public are not calling out very loudly for more accommodation of this kind. The ladies who are promoting this scheme have not furnished any statistics showing the number of their own sex debarred from hospital privileges. In fact, gynecological work forms a very large percentage of all the work done in the operating room. The attention given to it is very great. It claims a large share of the time of many of our surgeons. It cannot be said that a special hospital of this kind is needed in the interest of female physicians, for they are now eligible for a position on the staff of any of our hospitals. Quite a large number are already members of the staff of the Western Hospital, where they meet on perfect

equality, and enjoy the fullest confidence of their forty or fifty male colleagues.

Before leaving this phase of the subject, why could not these ladies who are so sincerely in earnest about the well-being of their sex, direct their efforts towards establishing a maternity and a gynecological ward in connection with the Western Hospital? This would meet every need that could be provided for in a special hospital, and still leave the female physicians to enjoy the benefits of association with a large general hospital. The Western is centrally situated, the grounds are spacious and beautiful, and there is abundance of room for building purposes. In regard to the success of a hospital exclusively "manned" by women, the masculine mind is rather loath to be very optimistic. There is but a limited sphere in hospital work for the inexperience unavoidable in youth, or to the unsteady hand incident to the disabilities of age. The persistent, arduous work falls on physicians and surgeons in middle life. Apply this law—unalterable as was that of Medea and Persia—to a staff wholly composed of women. Would not the mutability—incident to marriage—the "El-Dorado" of maiden hopes,—or maternity—the acme of feminine potentialities, prove an insuperable barrier to even a reasonable measure of success or efficiency? Under such conditions, would not a Woman's Hospital prove to be a very dangerous experiment?

J. HUNTER.

April 17th, 1901.

Chorea Caused by Fright.—A good deal of doubt has been expressed by different observers upon the alleged production of chorea by fright, chiefly on the ground that fright is very often asserted to have set up the disease in a child when closer investigation shows the cause of the fright to have been very slight. It must, however, be borne in mind that what may seem to a healthy adult to be a small or negligible cause for shock or fear may to the child have been a very great cause; or, to express it otherwise, what does not suffice to frighten an adult may produce very real terror in a child. There are, I imagine, few medical men of any experience who would not admit that fright is capable of producing genuine chorea, in the same way as we all know that it may, in certain conditions, set up paralysis agitans, dementia, genuine epilepsy, profound shock, and even death. However we may try to explain the manner in which fright acts, we are constrained to allow that it may result in these nervous disturbances, and more, that it may lead to disease which has a distinct anatomical lesion.—Dr. O. J. Kauffmann, *British Medical Journal*.

❧ *Items of Interest.* ❧

Dr. Henry Jellett, ex-assistant master of Rotunda Hospital, Dublin, has been appointed editor of the *Medical Press and Circular*, to succeed the late Dr. Archibald Hamilton Jacob.

Music as a Cure for the Insane.—Recently music has been introduced "as a method" in the detention hospitals of Chicago. The result is being watched with great interest by nerve specialists.

Snake-bites, according to the last annual report of the Indian Government, caused 24,621 deaths in India last year. The mortality from this cause does not seem to diminish in spite of all efforts of the government.

"American Medicine," edited by Dr. George M. Gould, Philadelphia, has made its bow to the public, graceful and stately enough for a presentation at court. Metaphorically we fill our glasses and propose the toast, "Long life to Independent and Professional Medical Journalism."

Death of the Editor of "Vratch."—Prof. V. Manassein, who founded the leading Russian medical weekly, *Vratch*, twenty-one years ago, and has been its editor since, died at St. Petersburg, February 26th, of apoplexy. He was in his sixty-first year. He served as professor of therapeutics and internal medicine for twenty-five years, and has published a number of important works. —*Jour. Amer. Med. Assn.*

The Scotch and Oatmeal.—The Scotch are the greatest dyspeptics on earth, largely owing to their use of half-cooked oatmeal and soft bread. Next to the Scotch are the Americans, and no single thing has contributed more to American dyspepsia than half-cooked oatmeal mush for breakfast. In rural France, where dyspepsia is practically unknown, hard bread and vegetables, with a moderate amount of meat, comprise the chief items of the bill of fare.—*The Sanitary Home.*

American Academy of Medicine.—The twenty-sixth annual meeting of the Society will be held at the Hotel Aberdeen, St. Paul, Minn., on Saturday, June 1, 1901, at eleven a.m.

Demise of Dr. Youmans.—Aged sixty-two, "in the zenith of his mental powers," William Jay Youmans, M.D., died at Mount Vernon, N.Y., on April 10th. Until a few months ago he was editor of *The Popular Science Monthly*.

Russia Bars Women Medical Students.—As a result of the recent student riots in St. Petersburg all the higher courses for women in the Medical Institute of the University of St. Petersburg have been closed indefinitely by official orders.—*Medical Record*.

A Permit Necessary to Practise Hypnotism in Hungary.—The government in Hungary has issued an ordinance forbidding hypnotism to be practised without a special permit from the Sanitary Department. This step has been taken to deprive criminals of the opportunity to plead hypnotic influence as an excuse for wrongdoing.—*Medical Record*.

Prof. A. Jacobi celebrated the completion of his fiftieth year as a physician by entertaining his many friends at the Academy of Medicine on the evening of April 5th. He was graduated at the University of Bonn, April 4th, 1851. The celebration of his seventieth birthday by a notable dinner last year is still fresh in the minds of his professional brethren. As an evidence that he has lost none of his youthful enthusiasm he read an elaborate and highly-finished paper on "German Text-books of Half a Century ago."—*Medical Record*.

A Monument to Pasteur in His Native Place.—The town of Dôle, in the Jura Department, which is the birthplace of Pasteur, is about to prove that a prophet is not always without honor in his own country. A statue of the great discoverer is to be erected there during this year. The statue, which is from the chisel of M. Antonin Carlès, is in bronze, and stands on a conical pedestal eight metres high. Pasteur is represented as standing in an attitude of meditation. At the base of the monument is a group representing Humanity holding out two children to Pasteur, whilst Science offers him a palm.—*Brit. Med. Jour.*

A Wind-fall for Queen's University.—The Ontario Government has granted \$22,500 a year for the next five years to Queen's University for the purpose of aiding the corporation of the School of Mining and Agriculture at Kingston in the erection of suitable buildings for the accommodation of the school and the better carrying on of its work.

Doctors in the English House of Parliament.—The medical profession has lessened the number of its representatives by two, the number in the last English Parliament being eleven, and now it is represented by nine, viz.: Dr. Robert Ambrose, John Dillon, Sir Walter B. Foster, Dr. Farquharson, Dr. Rutherford Harris, D. MacDonnell, Robert J. Price, Sir John Batty Tuke, Dr. C. K. D. Tanner.

New York Legislation on Hypnotism.—A bill has been introduced in the New York Legislature for regulating the practice of hypnotism, mesmerism, suggestive therapeutics, and allied phenomena. License is required from the Board of Regents of the University, and to obtain it a good general education is required, also at least two years in a medical school. Any unauthorized practice, or advertising of ability for such is to be made a misdemeanor, and penalties of fine and imprisonment are provided for by the Act.—*Journal American Medical Association.*

Queen's Graduates.—The graduates in Medicine at Queen's are as follows: Ithamæ Bogart, Borwick; Harold Bowie, Kingston; Lambert D. Densmore, Maitland, N.S.; Thos. S. Genge, Hollford; Wm. Grimshaw, Kingston; David B. Lazier, Belleville; John McCulloch, Port Perry; Aeneas MacDonald, Ottawa; Angus D. McIntyre, Glencoe; Henry E. Paul, B.A., Newburgh; Carlyle A. Porteous, Kingston; William C. Redmond, Bethel; Edward Richardson, Brockville; E. Ray, Kingston; Daniel T. Smith, Ottawa; F. F. Carr Harris, Kingston; Ernest J. Thompson, Kingston; Wm. G. Tyner, B.A., Kingston; Milton R. Young, B.A., Millville, N.S. These graduates received the house surgeoncies at the Kingston General Hospitals: W. S. Grimshaw, Kingston; I. G. Bogart, Borwick; H. A. Bowie, Kingston. The medallists are: In Medicine—I. G. Bogart, Borwick. In Surgery—H. A. Bowie, Kingston.

New University Buildings in the Queen's Park, Toronto.—We trust that it is not all newspaper talk regarding the Provincial Parliament having decided to erect new buildings in the Queen's Park for the School of Practical Science. We hope that the report is true, and that the work will be proceeded with at once.

Small-pox and Vaccination.—Recently a mail-carrier was found in the Melrose Lodging House, on upper Third Avenue, suffering from small-pox. The health board officials promptly removed the patient and vaccinated everyone in the building with the exception of two lodgers, who refused vaccination. About a week afterwards, on January 8th, one of these men was attacked by small-pox, and on the following day the other, while of the many others who were equally exposed to the disease not one has yet contracted it.—*Boston Medical and Surgical Journal.*

Tags on the Patients.—The *New York Medical Journal* tells of a practice which the Samaritan Hospital, Chicago, has adopted as a means of identifying former patients. It consists in giving each patient, on leaving the institution, a metal tag, to be constantly worn, bearing the following inscription: "In case of accident telephone this number —— to Samaritan Hospital, Chicago. They will notify my friends, and give you instructions." A record is kept of each case by number, and in this way appropriate remedies can be promptly resorted to in case of sudden illness.

The Victoria Cross for a Canadian Doctor.—Word was received three weeks ago that Dr. H. E. Douglas, a graduate of Queen's College, and whose home is now in Kingston, Jamaica, has received the Victoria Cross for bravery in action. Dr. Douglas was attached to the Gordon Highlanders as Surgeon. It was at the battle of Magersfontein that he so distinguished himself. He was with the Black Watch on its death march, and when the fire opened, though slightly wounded, crawled, amid the bullets, to the head of the column. The officers of his regiment were lying about dead or wounded. He dressed the wounds of all within reach, and made his way back in safety. He then rallied the scattered ranks of the Gordons, and led them out of action. He was wounded by a bursting shell, which carried away part of his cheek.

The Cardiac Result of Tight Lacing.—The recent investigations of Schott may be fairly quoted as forming a practical proof of the ill effects of tight lacing. Schott has demonstrated that by constricting the abdomen with a belt, dilatation of the heart under exercise was further increased by reason of the addition to the amount of blood flowing into the right ventricle, especially increasing the amount of work to be done by the heart. The teaching of Schott receives support and corroboration from the experimental observations of Roy and Adami, Fry and Krell, upon animals. These investigators have shown that compression of the abdominal veins causes dilatation of the heart by increasing the total output, that is, the work done. The true bearing of all these points has been more clearly demonstrated by means of the X-rays.—*Medical News and Circular*.

Embalming.—The embalming of a Mr. Joseph Henry Collymore as reported in the *Star*, in the interval between his death and the inquest, caused some friction between the coroner, Mr. Walter Uden, and the embalmer, Mr. Wood. The coroner very properly condemned any interference with a body waiting an inquest, and the reason assigned for the unwarrantable act was wholly inadequate. Our readers need not to be told that the embalming fluid would not seriously interfere with a chemical analysis of the viscera of the cadaver, for the simple reason that arterial injection would not be likely to contaminate them. But to obviate any possible source of fallacy, the law has wisely decided that there shall be no manner of interference with the body awaiting an inquest, and it commends itself as just, proper, and wise, to all thinking men.—*Medical Press and Circular*.

Dormiol.—Dr. B. Tendlau, physician to the Hospital Moabit (Berlin), says that in Prof. Goldschneider's division, dormiol was used in a great majority of cases of insomnia. The causes of the insomnia included alcoholism, acute pain, cachexia, neurasthenia, hysteria, heart disease, and convalescence from the acute infectious diseases. The results were variable. In insomnia due to severe pain small doses of dormiol produced no effect whatsoever; tablespoonful doses of the 10 per cent. solution induced a short sleep, shorter than that induced by similar doses of trional, chloral, or amylene alone; in compensation, however, the after-

effects which follow the use of the latter drugs—headache, nausea, malaise—were always absent. In the milder forms of agrypnia, especially in the insomnia of neurasthenic and hysterical patients, the administration of dormiol was generally followed by a deep sleep lasting several hours. The author thinks that the real indication for the use of dormiol will be found in this last class of cases. The dormiol also proved useful in cases of heart disease, where chloral could not be administered.—*Medical Times*.

New Application of an Old Remedy.—Our wise legislators, in their desire to increase the facilities for rapid transit, by constructing an underground road, in which the propelling power of the cars would be electricity, have planned, it would seem, from facts recently brought to light, better than they thought. Since electricity has been substituted for steam on the London underground railways, it is averred that a trip over the road is a pronounced appetizer. Persons who for years have not had a speaking acquaintance with a respectable appetite, insist that they have been entirely cured by taking a ride over the underground road every few days. There is a possible reason for all this in the fact that electricity creates a certain amount of ozone, which, being confined within the tunnel, gives the passengers a bracing air to breathe, so that when they reach their homes the weariness of the day's work has, in a measure, vanished, leaving them with a sound, healthy appetite, ready for a good dinner and wideawake for an evening's social enjoyment. And so our capitalists, in providing for rapid transit, are contributing largely to the longevity and general health of our citizens. Capital linked with science, the one at the command of the other, is rapidly solving the great problems of life for the benefit of humanity.—*Medical Times*.

How He Got the Place.—Dr. McTavish, of Edinburgh, was something of a ventriloquist, and it befell that he wanted a lad to assist in the surgery who must necessarily be of strong nerves. He received several applications, and when telling a lad what the duties were, in order to test his nerves he would say, while pointing to a grinning skeleton standing upright in a corner, "Part of your work will be to feed the skeleton there, and while you are here you may as well have a try to do so." A few lads would consent to a trial, and received a basin of hot gruel and a spoon. While they

were pouring the hot mass into the skull the doctor would throw his voice so as to make it appear to proceed from the jaws of the bony customer, and gurgle out: "Gr-r-r-gr-h-gh! That's hot!" This was too much, and, without exception, the lads dropped the basin and bolted. The doctor began to despair of ever getting a suitable helpmate until a small boy came and was given the basin and spoon. After the first spoonful the skeleton appeared to say: "Gr-r-r-uh-r-hr! That's hot!" Shoveling in the scalding gruel as fast as ever, the boy rapped the skull and impatiently retorted. "Well, jist blow on't, ye auld bony!" The doctor sat down on his chair and fairly roared, but when the laugh was over he engaged the lad on the spot.

Care of Children's Teeth.—Very few mothers realize the necessity of caring for and properly preserving a child's first set of teeth, so that they shall drop naturally out of the jaw without decay when the time comes. As soon as the child is able to eat solid food the teeth should be taken note of. When the little one is three or four years old there will often be decayed spots in the teeth. These cavities should be treated at once by a dentist, and filled with soft, temporary cement that dentists use for this purpose. This care of the first teeth not only prevents the child's acute suffering from toothache, but it keeps the mouth in a cleanly wholesome condition, which conduces to sound bodily health. The presence in the mouths of little children of decayed teeth is given on trustworthy authority as a frequent cause of disease. Were it not for these reasons it would still be desirable to preserve them to the proper time, for where the teeth are removed too early the jaw does not enlarge further, and when the permanent teeth are cut there is not room for them. Children whose first teeth have been properly cared for have stronger and better teeth when the permanent ones come. At least once in the six months a mother should examine the teeth of her children with an eye to possible defects, and when necessary, see a dentist without delay.—*Pediatrics.*

Treatment of Some Septic Conditions.—To Professor Crede belongs the credit of having shown that in metallic silver in the colloid form, we possess an agent which not only destroys pathogenic organisms, but renders their toxins inert and harmless. In

an article recently published in the *Medical Summary*, Dr. Max Staller, Surgeon to Mount Sinai Hospital, Philadelphia, relates his experience with the unguentum Crede, a 15 per cent. preparation of soluble silver, and this report serves well to illustrate the wide range of utility of this remedy in affections of bacterial origin. During the past two years the author has treated 25 cases of erysipelas with unguentum Crede. The ointment was rubbed gently into the inflamed area for twenty or twenty-five minutes, by which time the greater portion had been absorbed. Any case, if seen early, was cured in three to five days. Improvement was noticeable within five to six hours, the skin losing its parchment-like appearance, becoming softer, and the burning sensations also subsiding. A case of cellulitis phlegmonosa of the leg in a patient suffering with nephritis was cured within three days by four applications of unguentum Crede of two drachms each at intervals of five hours. In gonorrhea, at the first threatening symptoms of bubo, two or three inunctions of one-half drachm over the affected area, with rest for twenty-four hours, always aborted pus formation. Remarkably successful results were obtained in mammary abscess from the use of the ointment in connection with the ice-bag. Even when it failed to prevent suppuration, it localized the process and completely relieved the pain and discomfort. An inunction of two drachms, repeated three times at intervals of four hours, usually prevented pus formation if the case was seen early enough. During an epidemic of cerebro-spinal fever the author employed unguentum Crede in seven cases, with only one death, each patient receiving six inunctions, besides the routine treatment. In fifty cases of scarlet fever, some of marked severity, the remedy also exerted a pronounced beneficial effect. A mixture of unguentum Crede, two drachms, to two ounces of ung. aqu. rosæ was rubbed into the body, and in none of these cases was the least trace of albumen observed in the urine.

The Edinburgh Tradition and Clinical Instruction.—In an address, entitled "The Edinburgh Tradition and other Topics," Adami (*Montreal Medical Journal*, 1900, vol. xxix., pp. 559-570) emphasizes the great value of bedside teaching, more especially as carried out in the hospitals in Montreal, and he discusses the question why this method has been practised so long in Montreal, while "elsewhere on the continent until recently clini-

cal instruction and the free entry of students into the wards have been most exceptional?" "The democratic air of the states" is not considered adequate to explain the difference. The fact that many hospitals secondarily became attached to medical schools has been one cause, without doubt, of the opposition to the entrance of students into the wards. In Montreal the founders of the hospital and the earliest members of the staff were likewise the founders of the medical school, and they endeavored to exemplify in the new institutions the traditions of their youth. The Montreal school was developed by men from Edinburgh, and they continued the "Edinburgh tradition," that is, introduced the scheme of teaching in vogue for some time in Edinburgh. The men who founded the Montreal medical institution in 1823, and who became the medical faculty of McGill in 1829, were all Scotch. The Toronto school and the older schools in the United States were founded by English graduates. In London there was no regular instruction in the wards of hospitals until 1808. The Edinburgh school was well developed in 1750, and it was years in advance of London schools in the important matter of bedside instruction. Adami quotes, from an old volume, notes showing that in 1780 there was in Edinburgh a well-developed system of practical clinical instruction. Gregory, Hume, Duncan, and other Edinburgh teachers, at the beginning of the nineteenth century, taught the men who in Montreal inaugurated a system of ward work that has given the McGill school an important standing on this continent. From this school have come men who have carried this tradition with them to other medical schools. This is an excellent illustration of the great influence that methods of instruction may exercise in the development of institutions. The influence of teachers and of methods of teaching go further than merely to the present generation of students. As these scatter they are bound to carry with them the traditions and methods of their teachers. Hence the fundamental importance of guiding prospective medical students to those institutions whose methods and standards must be considered the best from the present point of view.—*Journal of American Medical Association.*

The Physician's Library.

BOOK REVIEWS.

Pulmonary Consumption, Pneumonia and Allied Diseases of the Lungs: Their Etiology, Pathology and Treatment, with a chapter on Physical Diagnosis.
By THOMAS J. MAYS, A.M., M.D., Professor of Diseases of the Chest in the Philadelphia Polyclinic; Visiting Physician to Rush Hospital for Consumption. Illustrated. New York: E. B. Treat & Co., 241-243 West 23rd Street. 1901. Price, \$3.00.

This book bears the distinct individuality of a courageous thinker, and though opposed to present day medical ideas on the origin of phthisis, is well worthy of careful study. The author states in the preface that the fundamental concepts of the work may be formulated in the following propositions: (1) That pulmonary phthisis in the large majority of cases is primarily a neurosis, and that the pulmonary disintegration is secondary; (2) that any agent, influence or condition, which undermines the integrity of the nervous system, will engender pulmonary phthisis or some other form of pulmonary disorder; (3) that the only remedies of value in the treatment of pulmonary phthisis are those which appeal to and act through the nervous system; (4) that of special value in the treatment of phthisis is the counter-irritant action of silver nitrate, introduced hypodermically over the vagi in the neck; and (5) that acute pneumonia and other forms of acute pulmonary disease are closely affiliated with disorders of the nervous system.

These various propositions are supported with great learning and eloquence. The ninth chapter, which contains extracts from the sanitary laws passed in Naples, Venice and other Italian States, during the eighteenth century, "concerning the disinfection of the rooms in which consumptives died and the clothes which they had worn," is very instructive. The author thinks that if the death-rate from consumption (one-fourth of the whole mortality) was the same in Naples at the time when these laws were abolished, as it was in other cities in which segregation was never practised, the practical value of such measures was entirely negative. Probably had the shrewd Italian legislators of the eighteenth century been as well informed as their successors of the present day, they would have paid scant attention to the clothes and other effects belonging to a consumptive, but would have passed regulations enforcing the use of the spit-cup and the destruction of all tubercular sputa. It is just another proof that sanitary laws interfering with liberty should not be passed until science has said her last word. The book is well printed and is a credit to the publishers.

J. J. C.

Encyclopedia Medica. Under the general editorship of CHALMERS WATSON, M.B., M.R.C.P. (Edin.) Vol. V. Herpes to Jaws. 536 pp. Edinburgh: William Green & Sons. 1900.

While the contributions to this volume are, generally speaking, good, some of them merit special notice as giving evidence of thorough and careful preparation by the authors. Among these are those on Hysteria, of which there are

three. The general article by Sainton, of Paris, is interesting as presenting the subject from the French point of view. G. F. Still gives a most interesting description of hysteria in children, in whom he finds it much more frequent than is usually supposed. It is a matter of much importance that the condition be early recognized, so that means may be taken to correct the condition by proper education and suitable environment. The Surgical Aspects of Hysteria is written by A. G. Miller. The articles on Insanity, of which there are four, are perhaps even more noteworthy. A review of them is beyond the scope of this notice. J. Milne Bramwell contributes an interesting article on Hypnotism. His claims are not extravagant, nor does he minimize the difficulties met with in judiciously carrying out hypnotic treatment. Indigestion, by A. Lockhart Gillespie, is scarcely to be commended. It attempts in a few pages what has often had devoted to its consideration a whole volume, and that not a small one. It is scarcely correct to say that heartburn is due to excess of acid in stomach contents, as it may occur even when they are subacid if the nerve-endings in the esophagus are irritable. The article on Influenza by Sir J. W. Moore, of Dublin, is an interesting one, and will be found helpful to all physicians, as all have to do with this widely-prevalent disease in its effects. It is treated under four types: the neurotic, neural or rheumatic type; the cardio-pulmonary type; the gastro-intestinal type, and the febrile type.

Many other articles merit special mention, but space forbids. This volume, like its predecessors, will be found valuable by all, and especially by those whose library facilities are limited.

A. M.P.

Progressive Medicine. Vol. I., 1901. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 430 pages, 11 illustrations. Per annum, in four cloth-bound volumes, \$10. Philadelphia and New York: Lea Brothers & Co.

It is with some pleasure that we peruse the first volume of "Progressive Medicine" for 1901. For some years now the medical profession have come to look upon this work in its four volumes as being the *sine qua non* of all that is best and most recent in the domain of American medicine. It can be safely said that once a physician has become a purchaser of "Progressive Medicine," he remains so from year to year, so well satisfied has he been in the past with his investment of \$10.

Volume I. of the series of 1901 contains the Surgery of the Head, Neck and Chest, Infectious Diseases, including Acute Rheumatism, Croupous Pneumonia and Influenza, Diseases of Children, Pathology, Laryngology and Rhinology, Otology,

Among the contributors we find such names Drs. Henry B. Baker, of Lansing, Mich.; J. Chalmers Da Costa, of Philadelphia; W. B. Boley, of New York; Wm. T. Belfield, of Rush Medical College; Alfred Stengel, of Philadelphia; A. L. Turner, of Edinburgh, and F. A. Packard, of Philadelphia.

We read with a great deal of pleasure the 100 pages or more devoted to the Surgery of the Head, Neck and Chest by Dr. Da Costa. We can safely say that no more advanced material upon this department will be found in any work, especially the forty pages devoted to the chest. Dr. Da Costa contributes a good deal of the space allotted to him to plastic operations about the face.

We commend to all a careful perusal of Dr. Packard's article on Typhoid Fever. This alone is worth the price of the book. The article is more than up-to-date. It contains the most recent views upon diagnosis and treatment, the author having left nothing of any importance untold. In referring to the Widal reaction for typhoid fever, Dr. Packard states that, aside from the question as to the relative merits of the dry and the moist methods of performing the test, there is still considerable difference of opinion in regard to the dilution

which should be employed in making the test, the sources of error, as a rule, he thinks, being too great a dilution, causing an absence of agglutinating reaction in cases of typhoid fever, while too slight a dilution would cause a faulty diagnosis to be made where that disease is not present. The author thinks that the most satisfactory dilution is in the proportion of 1 to 20.

If the other volumes of 'Progressive Medicine' for 1901 are as good as Vol. I. is, no one will regret having ordered the set, if he has not already become a permanent subscriber,

W. A. Y.

Diseases of the Nose and Throat. By F. DE HAVILAND HALL, M.D., F.R.C.P. (Lond.), President of the Laryngological Society of London, Physician to the Westminster Hospital, and HERBERT TILLEY, M.D., F.R.C.S. (Eng.), Surgeon to the Throat Hospital, Golden Square. Second Edition. London: H. K. Lewis. 1901. Price, 10s. 6d.

The second edition of this work is a vast improvement on the first, for there has been a general recasting and rewriting of the various chapters, as well as a liberal addition of new illustrations. Special attention has been given to the various surgical procedures, and to the diseases of the accessory sinuses. The personal element is now allowed to enter largely into the book; the authors are no longer impersonal. The editorial "we" is quite frequently used. One puts down the book without any suspicion that it was written merely for the self-glorification of the authors, or that it has been padded to please the publisher.

A timely note of warning has been sounded when it is said that no operation should be performed unless adenoids produce some definite symptoms of their presence. To prevent recurrence of polypi it is still recommended to turn down the pedicle with the galvano cautery or caustics. The authors evidently have their doubts of the efficacy of this procedure, for they lay much more stress on removal of decayed bone. They believe that in asthma, permanent cures following intra-nasal treatment are rare, and that most cases give no result at all, an experience which has been our own.

They give no uncertain voice as to antitoxin. The treatment of diphtheria is completely revolutionized by the introduction of antitoxin, say they. Even in a mild case, the injection of at least four thousand units at the first is advised. They regard the greater frequency of post-diphtheritic paralysis as due to the fact that more of the severe cases now survive.

J. M. M.

A Text-Book of Gynecology. Edited by CHARLES A. L. REED, A.M., M.D., President of the American Medical Association, 1900-1901; Gynecologist and Clinical Lecturer on Surgical Diseases of Women at the Cincinnati Hospital; Fellow of the American Association of Obstetricians and Gynecologists; Fellow of the British Gynecological Society; Corresponding Member of the National Academy of Medicine of Peru, etc. Illustrated by R. J. HOPKINS. New York: D. Appleton & Co. 1901. Canadian Agents: The G. N. Morang Co., Limited, Toronto.

Among the contributors to this excellent work by our friend Dr. Reed, who in a few weeks from now, as an occupant of the President's chair, will by his executive ability, as well as his reputation as a member of the profession, make the 1901 meeting of the American Medical Association a huge success, we find such men as Drs. F. X. Dereum, of Philadelphia; Murdoch Cameron, of Glasgow, Scotland; Henry C. Coe, of New York; Frank P. Foster, of the *New York Medical Journal*; H. A. Hare, of Philadelphia; M. L. Harris, of the Chicago Polyclinic; William Warren Potter, of the *Buffalo Medical Journal*; Wyatt Johnston, of Montreal, and last, but not least, Jas. F. W. Ross, of Toronto.

It can readily be seen, therefore, that with such collaborators as those mentioned, the buyer of "Reed's Gynecology" cannot misspend his money.

The book is divided into about fifty chapters, the first one dealing with such subjects as the General Etiology of Diseases of Women; the General Pathology of the Female Generative Organs; General Therapeutics of Gynecology; Diagnosis, Sepsis and Antisepsis; Hemorrhage and Hemostasis; Anesthesia and Anesthetics; on through to the Pelvic Floor and its Injuries; Displacements of the Uterus; Neoplasm of the Uterus; the Fallopian Tubes and Their Infection; Neoplasm of the Ovaries and Broad Ligaments to the Female Urinary Apparatus and its Disorders. It will therefore be seen that the author has in short space given an immense amount of information, and we feel surprised that he has managed to boil down to such an extent so great a quantity of matter. The book is well illustrated, the half-tones being beautifully executed and exceedingly clear.

The great trouble with the larger number of works on this subject is that they are written too much for gynecologists, and not sufficiently suited for use by general practitioners. Time and again has a general practitioner purchased a book, thinking that it would be adapted for his work, only to find that it was written by a gynecologist for a gynecologist, and to advertise that gynecologist. Dr. Reed's volume, on the other hand, is the reverse, and will be found to be just the thing for the busy physician, enabling him to lay his hand at once upon the knotty point without wading through chapter after chapter of little interest.

Queen Victoria. Her Life and Reign. A story of Monarchical Institutions in British Countries, and Her Majesty's Imperial Influence. By J. CASTELL HOPKINS, author of "The Life of Sir John Thompson," "Life and Work of Mr. Gladstone," "The Sword of Islam," etc., etc., with a preface by the Marquis of Dufferin and Ava, K.P., G.C.B., etc., late Governor-General of Canada and Viceroy of India. The Queen Publishers, Toronto and Brantford. 1901. J. L. Nichols & Co., 33 Richmond Street West, Toronto, Ont.

The Queen is dead: Long live the King. It is yet but a few months since the entire world heard with unalloyed grief of the demise of our beloved Queen and Sovereign, Victoria. It came as a shock to all, as it seemed as if we her subjects had begun to look upon such an occurrence as her death as well-nigh impossible, so much did the reign of Queen Victoria enter into and almost become part of the life and existence of those of her subjects who have outlived her. Yes, Queen Victoria is dead. No longer do we sing "God Save the Queen," as another already fills her place, and from the present outlook it would seem as if we shall, for many years to come, be ruled over by a King and his Queen Consort.

For several weeks past there have been various plans suggested whereby the citizens of Toronto might contribute to a lasting memorial to Victoria the Good. Several plans have been suggested, but too many have bordered upon the elaborate, thus robbing the scheme of its main object, the participation of all, both rich and poor. We cannot think of anything which will prolong the memory of so noble and grand a woman, as it should be, as the presence in every household of the land of a copy of "Her Life and Reign."

The name of Castell Hopkins, the author of this volume, has become almost a household word to Torontonians. He introduced himself to the literary world some years ago, and there are few readers who are unacquainted with his books, "The Life of Sir John Thompson," and "The Life and Work of Mr. Gladstone." His "Life and Reign of Queen Victoria" is quite a large and comprehensive volume and may be said to be complete, as it does not, as before, stop at a certain juncture in our late Queen's life, but only closes with her death and includes even a complete account of that wonderful, never-to-be-forgotten pageant, her funeral procession through the city of London and on

to Windsor, where she was quietly laid to rest in the Mausoleum which she herself erected to her beloved Consort, Albert.

We feel sorry that the paper used in this book is so wretched, the half-tone illustrations showing up very poorly in consequence. The type is large and distinct, however, and can be read without in any way tiring the eyesight. The book is worth buying and keeping, as in years to come "The Life and Reign of Queen Victoria" will be often consulted, and indeed, become a reference book, the facts it contains about the life of the noblest woman who has ever occupied in regal splendor the English throne, being well worthy of example the wide world over.

W. A. Y.

The International Medical Annual: A Year-Book of Treatment and Practitioner's Index. Nineteenth year. New York: E. B. Treat & Co., 241-243 West 23rd Street. Chicago: 199 Clark Street. 1901.

We have much pleasure in drawing the favorable attention of our readers to this valuable production. It is extremely useful for a practitioner who takes an interest in certain special subjects to observe the advances made, the neglect of old favorites and the introduction of new ideas.

In the matter of new treatment the Year-Book is a treasure house of valuable hints, covering the whole range of medicine and surgery. In sanitary science there are articles on arsenic in beer, bacteriology and bacteriological laboratories, biological treatment of sewage, dangers of water-gas, female sanitary inspectors, and lady health visitors, housing of the working classes, malaria and plague, and their preventions, metropolitan water supply, railway carriages as carriers of infection, prevention of tuberculosis, return cases of scarlet fever and diphtheria, summer diarrhea. There are fourteen colored plates, and forty-five wood engravings.

J. J. C.

Oral Sepsis. By WILLIAM HUNTER, M.D., F.R.C.P. Size 6½ x 9½, 34 pp., gold stamped, cloth binding. London and New York: Cassell & Company. \$1.00 net.

This monograph is published in the hope that it may serve to draw additional attention to a source of disease extremely prevalent, and most egregiously overlooked. It is a forceful discussion, with illustrative cases, of the amount of poison absorbed into the system from diseased conditions of the mouth.

The author says: "The continuous influx of pus organisms from diseased teeth and gums must be a source of disturbance to the mucosa, causing catarrh and diminished gastric secretion. The sallow look and languid feelings of which he [the patient] complains, and which he and his doctor agree in referring to his chronic indigestion, are really the expression of this septic absorption."

The course of treatment is clearly indicated, part of which belongs to the physician and part to the dentist.

Infant-Feeding in Health and Disease. A modern book on all methods of feeding. For Students, Practitioners and Nurses. By LOUIS FISCHER, M.D., Attending Physician to the Children's Service of the New York German Poliklinik; Bacteriologist to St. Mark's Hospital. Containing 52 illustrations, with 16 charts and tables, mostly original. Price, \$1.50 net. Philadelphia, Pa., 1914-16 Cherry Street: F. A. Davis Company, publishers.

This book will be found an exceedingly ready reference book by the active practitioner, and also very serviceable for the student. Some useful tabulations are introduced, and the Doctor has not hesitated in expressing his disapproval of the utility of certain modifications which milk undergoes. He has extensively used the leading text-books now devoted to the Diseases of

Children, and has added a useful diet-list to be used in such diseases as diphtheria, etc. His experience in the clinical diseases of children has been of great assistance in compiling this work.

A. J. H.

Urinary Diagnosis and Treatment. By JOHN W. WAINWRIGHT, M.D., Member of American Medical Association; of New York State Medical Association; of New York County Medical Association, etc.

This is a well-bound little book of nearly 150 pages, 87 of which are devoted to urinary diagnosis and 30 to treatment. The object of the author to produce a work that "embodies the simplest methods of chemical and microscopical examination, with the latest deduction and theories, concerning the general routine treatment of the conditions found," is a laudable one. The book is well written and contains numerous tables and formulae, and several excellent plates. While, perhaps, not as exhaustive as might be desired, it yet covers the ground fairly well, and the busy general practitioner, for whom the work is intended, will find here much of value.

E. G. W.

International Clinics. Vol. III. 1900. Publishers: J. B. Lippincott Company, Canadian Agent: Chas. Roberts, 1524 Ontario Street, Montreal.

In this volume there is rather a good article by Fr. Rubenstein, on Epilepsy, and also an interesting one by Dr. G. L. Walton, of Harvard, on Degeneracy. Vol. IV. contains an instructive account of the value of massage in Raynaud's disease, by Dr. Douglas Graham, and if his observations are to be depended upon, the Profession will look for benefit from this form of treatment in various vaso-motor disturbances. Prof. Roncali has contributed a very readable article on "The Rôle of the Blastomycetes; or, Ferments in the Etiology of Cancer." A partial digest of the "Etiology and Morbid Anatomy of Various Diseases" concludes this volume.

F. N. G. S.

Self-Examination, consisting of 3,500 questions on medical subjects, with the proper references to standard works in which the correct replies may be found.

Third edition, enlarged with questions of the State Examining Boards of New York, Pennsylvania and Illinois. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1901.

This is a convenient little work, containing questions on Anatomy, Physiology, Materia Medica and Therapeutics, Chemistry, Practice of Medicine, Surgery, Obstetrics, Gynecology, Diseases of Children, Diseases of the Eye, Diseases of the Skin, and one page is given to Dental Pathology and Medicine.

We think this little work is well adapted for the student's use. He can carry it in his pocket, and practise self-examination during his odd spare moments to great advantage.

W. J. W.

Retinoscopy (or Shadow Test) in the Determination of Refraction at one Meter Distance, with the Plane Mirror. By JAMES THORINGTON, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic. Fourth Edition. Philadelphia: P. Blakiston's Son & Co. 1901. Price, \$1.00.

The issue of the fourth edition seems to prove the popularity of this little work. It is primarily intended for college students and post-graduates. Clearly written, profusely illustrated, it presents the subject concisely and practically. The one objection, however, is that retinoscopy is described as done by means of Dr. Thorington's special light chimney. This, in the opinion of the reviewer, decidedly limits the value of the book.

J. M. M.

The Circulation in the Nervous System. By HERMAN GASSER, M.D. Plattsville, Wisconsin, U.S.: The Journal Publishing Co.

This work consists of ten papers, parts of which have been read before medical societies, and published in *Medical Times* of New York. The subjects treated illustrating the circulation in the nervous system are : 1. Pleasure, Pain and Consciousness. 2. General Principles of Circulation in the Nervous System. 3. The Psychology of Circulation in the Nervous System. 4. Physics of Circulation in Nervous System. 5. Insanity. 6. Feeding the Senses. 7. The Neuron System. 8. The Physician as Psychologist. 9. Does the Brain Think? 10. What is Mind and its Relation to Circulation in the Nervous System?

We have found this a very interesting little volume. It is well thought out and deserves a careful reading by those interested in this kind of work. W.J.W.

BOOKS RECEIVED.

"A Manual of Practical Hygiene for Students, Physicians and Medical Officers," by Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Illustrated with twelve plates and one hundred and five engravings. Lea Brothers and Co., Philadelphia and New York. 1901.

MAGAZINES RECEIVED.

Scribner's Magazine for April, in addition to articles of travel, adventure and art, by Walter A. Wyckoff, John Fox, Edwin Lord Weeks and others, contains six short stories, three of them by new writers and three by writers whose work is familiar in this magazine. On its art side this number is also rich and varied. It has a colored cover by Foringer. It contains eight pages of illustrations by Frederic Dorr Steele, reproduced in color in a novel way to illustrate the story of a "Blue Ribbon Horse." The frontispiece, which is a very delicate pen-and-ink drawing by Peixotto, is reproduced with a tint; Edwin Lord Weeks, the traveller and artist, contributes a very elaborate illustrated article on "Two Centres of Moorish Art," which reveals his wonderful skill as a painter of Oriental subjects. Among the other artists are Christy, Yohn, Will H. Low and Henry McCarter. Altogether, both in the beauty and richness of its illustration, and in the variety of its contents, this is a spring number of extraordinary attractiveness.

LITERARY NOTE.

Messrs. Lea Brothers & Co. have pleasure in announcing for early issue "A Practical Treatise on the Blood and its Diseases," for Practitioners, Laboratory Workers and Students, by James Ewing, M.D., Professor of Pathology in Cornell University Medical College, New York. This will be a handsome octavo volume of about 450 pages, amply illustrated with plates and engravings. In view of the recent rapid advances in the knowledge of the pathology of the blood, and the numerous and practical applications of this knowledge in clinical diagnosis, this book, representing authoritatively, as it does, the most modern discoveries and achievements, will no doubt meet with a warm welcome. The work aims to associate changes in the blood as closely as possible with lesions in the viscera, thus immensely increasing its practical value and rendering it a work for constant daily reference in the routine of every general or special practitioner.

The Canadian Journal of Medicine and Surgery

A JOURNAL PUBLISHED MONTHLY IN THE INTEREST OF
MEDICINE AND SURGERY

VOL. IX.

TORONTO, JUNE, 1901.

NO. 6.

Original Contributions.

VACCINATION.*

BY P. H. BRYCE, M.D. TORONTO.

THE Vaccination Act demands that a child shall, within three months of birth, be taken to the medical practitioner for the purpose of being vaccinated, and the practitioner is required to vaccinate the child. Upon the eighth day following the vaccination, the child shall again be taken to the practitioner by whom the operation was performed, in order that he may by inspection ascertain the result of the operation. If successful upon inspection, the practitioner shall give a certificate to that effect.

Fortunately in this matter modern science has developed nothing leading us to the belief that the law of thirty years ago calls for a practice no longer tenable. Bovine vaccine and glycerinized lymph are capable of producing the old typical, clinical phenomena caused by the use of humanized lymph, and we have a right to claim the following as representing our beliefs in the matter of vaccination and the part it plays as a prophylactic against small-pox until confirmatory evidence to the contrary has been brought.

It is hardly necessary to say that the whole value of vaccination depends upon its ability to protect either against infection with small-pox or to modify the virulence of an attack, should it occur. That such results have followed vaccination, the history of a hundred years has proved. These two points in the experi-

* Abstract from quarterly Report, Ontario Provincial Board of Health, April 26th, 1901.

ence of twenty years having been absolutely demonstrated in hundreds of outbreaks and thousands of cases, the question to be determined is: Upon what factors in vaccination do such satisfactory results depend? Briefly, these are:

1. A normal vaccine, that is, one where the assumed microbe of the disease is actively present.
2. The use of a vaccine when fresh and active.
3. The absence of extraneous microbes in the vaccine.
4. The careful inoculation of patients and subsequent treatment of the wound.

The question arises at once, What is normal vaccine? In my experience it is a lymph which produces a history of evolution of the vesicle exactly as set forth by Professor T. A. Ackland, one of the officers of the English Royal Commission (1889-1896) to enquire into alleged injuries due to abnormal vaccinations, and which is found in "Allbutt's System of Medicine," Vol. 2. Its stages are: (1) scarification and immediate inflammatory reaction, subsiding within a few hours; (2) on the third or fourth day, pale red papules appearing, which during the next five days develop into compound vesicles, becoming pustules on the ninth day; (3) vesicles distended with lymph and plump at first, but as the lymph thickens, the centre becomes depressed, forming a scab and surrounded with a distinctly raised marbled border; (4) an area of redness and inflammatory thickening of tissue around the pustule of an inch or more in diameter; (5) a decrease from tenth day of the inflammatory area and a drying of the scab which falls by the twentieth day; (6) a cicatrix usually with a hard scar centre with rays more or less distinct.

The same article gives a table showing variations in the development of the poek, most of which it states are, however, slight, such as abnormal rapidity or delay in the evolution of the vesicle. In the same work, in another monograph by Dr. M. Copeman, dealing more especially with the morphology, chemistry and preparation of vaccine, he there points out how bovine lymph has in England taken the place of humanized, and then proceeds to speak of glycerinized lymph. He speaks of the practically constant presence of extraneous microbes in lymph, and notes his experiments as early as 1891, which proved that a 50 per cent. solution in water of chemically pure glycerine to one part of vaccine pulp, set aside from light for a few weeks, removes all saprophytes as well as tubercle bacillus and streptococcus. Thereafter follows the satisfactory statement that in vaccine thus properly produced "we have then a preparation which, while even more efficient as vaccine than the original lymph, can be produced entirely free from extraneous organisms," and he points out how scientific workers in France, Germany, England, and America have borne

out these statements. Referring to the operation on the calf, Copeman points out that on the fourth day the pustule is mature, and that the lymph is then taken and treated, thereby showing that with glycerinized lymph the evolution of the vesicle is the same as with the lymph unglycerinized. It may be further remarked that in the experimental work of Chambon and Beclere, of the Animal Vaccine Institute of Paris, the history of normal vaccination is the same as that given above. The immunity of bovines and of children and of monkeys thus vaccinated to revaccination is not only relative, but for several years practically absolute. Of the protective qualities of vaccination against exposure to small-pox in the persons of physicians and nurses, it is unnecessary to dilate, as we have personal knowledge of the facts in the case of hundreds during the past twenty years, as well as the protection up to the fourth day by immediate vaccination of exposed persons. Copeman gives many illustrative examples of the same fact. That in a whole series of cases with relatively inert vaccine such immunity does not exist against even mild small-pox has been brought to our knowledge in different outbreaks within the last few years, and further, that persons with no cicatrices from a previous vaccination, have within periods from a month to a year thereafter, been revaccinated with perfect success.

Copeman, speaking of the necessity for efficient vaccination, points out in a study of recent statistics compared with those of former years, "that we are taught a variety of lessons of which the most important is that while infant vaccination affords an almost absolute immunity from small-pox up to ten years, to do so it must be efficient." Absolute immunity, he further states, is practically obtained with a revaccination after ten years. He points out that the more closely the vaccination of patients in recent epidemics has been studied, the more obvious has it become that a deplorably large proportion of the nominally vaccinated have been most inefficiently vaccinated, and are consequently almost unprotected against small-pox, and says: "So long as medical men, in their mistaken good nature, are found ready to yield to the ignorance or vanity of applicants for vaccination, and to make only one, or perhaps two, insignificant insertions of lymph in a child's arm, and to certify cases of that kind as successfully vaccinated, so long shall we have to struggle against the fallacies and sophistries of anti-vaccinationists." Asking further how efficient vaccination is to be secured, he states: "That the Local Government Board prescribe that public vaccination shall in all ordinary primary cases produce at least four goodsized separate vesicles not less than half an inch in diameter. The total should not be less than half a square inch.

In a statistical study by Dr. Thorne Thorne, of 13,775 cases in the London Small-pox Hospital, in two series, the following result for the second series from 1852 to 1867, or in 10,661 cases, is given:

Stated to have been vaccinated—	Percentage of Deaths.
With no cicatrix.....	39.4
“ one “	13.8
“ two “	7.7
“ three “	3.0
“ four “	0.9

He further points out that of 13,775 admitted, vaccination was very defective in 11,172, of whom 1,072 died. Of 1,079 reasonably good, 21 died; and of 1,505 with good normal marks, only 13 died. Such statistics can be duplicated from many sources.

In conclusion it may be stated that we have yet to learn of any facts which can alter the biological, clinical, and statistical evidence upon which the Royal Commission of England, after seven years of investigations, based its conclusions, which are essentially those set forth in the preceding references, and which in every detail, whether biological, clinical or statistical, are supported by our own experience.

The urgency of the situation demands that this Board make public its views on the subject which the public have been ignorant or careless of, and that it impress its views in the most positive manner upon local health authorities in all parts of the Province.

DIPHTHERIA OF THE CONJUNCTIVA.*

BY JAMES MacCALLUM, M.D.,

Oculist and Aurist to Victoria Hospital for Sick Children and to St. Michael's Hospital.

PRIMARY diphtheritic conjunctivitis is very rare in America. Less rare, yet very infrequent, is diphtheria with conjunctival complication. In thirteen years of private practice and hospital connection I have seen in Toronto but one case, though Dr. R. J. Wilson and Dr. Tweedy have given me brief notes of four others. As to the proportion of cases in which the eye is affected, the text-books are strangely silent. Dr. Tweedy has records of 3,477 cases seen by him in the Toronto Isolation Hospital from 1891 to 1900. In but two of these was the conjunctiva attacked. This, I believe, is, for Toronto, overstating rather than understating its frequency.

CASE 1. Frank S., aged 18 months, admitted May 3rd, 1900. The previous history unknown. Two weeks ago he was brought to the outdoor clinic with a sore on penis and edema of prepuce. Has had catarrhal discharge from nose for some weeks. During the last few days the eye has become very sore. Corneal cicatrices. Edema and redness of lids of right eye. On palpebral surface of right lower lid there is a greyish-white membrane sharply defined covering nearly the whole surface. Eczema of the ears and face, excoriations of *alae nasi* and upper lip.

The child, a foundling brought to the Children's Shelter, had well-marked marasmus. The ulcer on the penis was found covered with a greyish membrane. Cultures from it and from the eye both showed the Klebs-Loeffler bacillus. The membrane on the conjunctiva gradually disappeared in the course of three days without any involvement of the cornea. The treatment consisted of antitoxin, iron and alcohol internally, and bichloride solution 1 in 5,000 locally. The day after the membrane had completely disappeared from the conjunctiva the child suddenly died. The membrane disappeared by becoming gradually thinner and thinner, not by a portion loosening and being cast off.

CASE 2. By Dr. R. J. Wilson. J. P., aged 12, male. Had pharyngeal diphtheria. Within two days membrane had spread through naso-pharynx into nares and appeared on upper lip, passed through the Eustachian tubes and filled the external auditory meatus on each side, covered the glans penis, and appeared around the anus, spreading on to each buttock. On the third day the bulbar and palpebral conjunctivas were covered with membrane. The eyes presented the appearance of gonorrheal ophthalmia, except that there was no purulent secretion. On the fourth day the boy died.

*A paper read at the Canadian Medical Association at Ottawa, September, 1900.

CASE 3. By Dr. R. J. Wilson. Infant, aged 2. Pharyngeal diphtheria. Third day both palpebral and bulbar conjunctiva covered by membrane. Fifth day, death.

In neither of these cases did the patient live long enough to allow of the cornea being destroyed. These cases were all in ante-antitoxin days.

CASE 4. By Dr. Tweedy. Corrine B., aged $4\frac{1}{2}$, admitted August 20th, 1900. Cellulitis and adenitis quite prominent when admitted, also local infection of an extensive nature on external genitals, involving skin and mucous membrane and extending round beyond the anus and inside of the thighs. The membrane on the mucous membrane in this vicinity was continuous, that on the skin isolated patches, many of them circular, with area of hyperemia surrounding some of them. There were three attacks of epistaxis. Before death purpuric spots appeared on the skin. There was a small area of membrane on the conjunctiva of the internal angle of either eye. Child died suddenly, August 23rd.

CASE 5. By Dr. Tweedy. Eva B., aged 14, admitted August 22nd, 1900. Naso-pharyngeal diphtheria. Obstruction in breathing due to inflammatory action. Adenitis and cellulitis marked. A week after admission erysipelas appeared in face, extending up to eyes, completely closing them. The conjunctiva in part became infected with diphtheria, and this in turn affected the bulbar conjunctiva to a limited extent. There was very great peripheral sensibility of body, and patient was in highly nervous condition, calling and screaming out on very slight provocation. This continued for several days, when death took place, September 4th.

The accepted idea seems to be that the membrane spreads directly up through the nasal duct into the conjunctival sac.

Extension by way of the nasal duct into the conjunctival sac, however plausible an explanation, is shown by clinical experience to be most infrequent. Much more likely is the conjunctiva to be infected by the fingers or by rags soiled with discharge from the nose or mouth. Every care should be taken to prevent the child by any chance rubbing his eyes with the rags used for this purpose. The danger, however slight as a matter of statistics, is yet too real to permit one to neglect this precaution. It is like death from an anesthetic; it may occur but once in ten thousand cases, yet one never knows when his case may be *that one*. The association of conjunctival and genital diphtheria argues infection from the fingers.

In what proportion of cases the conjunctival diphtheria is primary, and the pharyngeal secondary, is a point not elucidated by any authority I have access to, although Berry states that to be the general order of appearance. In none of these cases was this the order of events.

Conjunctival diphtheria seems less contagious, perhaps, than other forms. Cases 4 and 5 were sisters, and so one may have

infected the other, but in the other cases there is no history of any other child in the ward or in the family having contracted the disease. Nevertheless, isolation is necessary. It can be easily understood that a child with any form of conjunctivitis coming in contact with diphtheria or contracting it, would be very prone to develop conjunctival diphtheria. This again leads to the question whether children with sore eyes during a diphtheria epidemic may not really have a masked diphtheritic conjunctivitis without membrane, and be a means of carrying the disease to others in whom the membrane shall develop. It is often so difficult to trace diphtheria to its source that this possibility should be kept in mind. We may have a diphtheritic sore throat with specific bacilli but no membrane. Why not a conjunctivitis of the same kind?

In treatment the one thing to be relied upon is antitoxin in large doses, together with antiseptic solutions and supporting internal treatment. If the disease be limited to the eye, the visual result depends on whether the cornea be attacked or not. The unaffected eye should be protected by a shield or an occlusion bandage.

All of these cases ended in death. There is no reason why a diphtheria originating in the conjunctiva, and limited to the eye, should prove fatal, any more than does a gonorrheal ophthalmia or a panophthalmitis, but when secondary to diphtheria in other parts of the body, the case is quite otherwise. Ophthalmological authorities seem to regard with complacency, as regards a fatal result, diphtheria of the eye, their experience being derived chiefly from pure conjunctival cases. Swanzy, who, under Von Graefe, had charge in the Berlin Hospital of two wards set apart for diphtheria of the conjunctiva, makes no mention of any fatal result, and distinctly states that it "is rarely, if ever, found in connection with an attack of diphtheritis of the fauces."

13 Bloor Street West.

DIAGNOSIS AND SYMPTOMATOLOGY IN THE APPENDICITIS OF CHILDREN.*

BY THOMAS H. MANLEY, M.D., NEW YORK.

IN no branch of surgery has so much attention been bestowed during the past ten years, as that which deals with lesions of the appendix-*vermiformis*, their pathology and treatment.

It is self-evident to anyone, that it is absurd to discuss the pathology of a structure, the physiology or function of which is yet quite unknown, if, indeed, it has any, any more than the terminal appendix of the spinal column has any, other than that of a rudimentary tail.

THE INTERPRETATION OF SYMPTOMS AND DIAGNOSIS.

The practitioner, therefore, has to deal rather, here, with facts than philosophical speculations. He can learn but little more on the problem of operative technique, as that cannot be much further simplified or improved; but what is often more difficult to master than surgical technique, is the art of correctly interpreting symptoms and accomplishing correct diagnosis in those typhlitic cases. There is much yet to be learned.

That the symptomatology of appendicitis has been exceedingly vague, we may gather from the fact that it was as late as 1827 when we had the first accurate description of the morbid anatomy of appendicitis by Menier.

More adequate descriptions bearing on symptoms later appeared from the pens of Dance and Albus, but sixty years passed before these investigations bore fruit, and Sands, of New York, for the first time on record, diagnosed perforative-appendicitis in a boy of 12, removed the organ by surgical operation, and saved the patient.

In 1887 Weir was able to collect but fifteen cases in which laparotomy had been performed for supposed perforated intestine. The appendix was the seat of perforation in four of these, although this was not discovered until after death.

SEXUAL FREQUENCY AND RELATIVE AGE.

About the same sexual differences in frequency obtain at all ages. It occurs most frequently in early adult life, but may be

* Abstract of an essay read at the meeting of the American Medical Association, Atlantic City, N.J., June 5, 1900.

encountered at any age. Jalaquier records 182 cases at an early age in his own practice; 4 were under five years, 42 from 5 to 6, 64 from 10 to 15 years, 25 from 15 to 20. There were 112 males to 70 females.

Other tables, as Bamberger's, Matherstock's, Gordon's and Burri's show about the same relative frequency in early life.

The population of New York City proper is about 2,000,000. In 1899 there were 299 deaths from appendicitis; 58, or about one-fifth in children; not such a startling mortality.

DIAGNOSTIC FEATURES IN THE CHILD.

The causative factors in the child, as with the adult, remain exceedingly obscure. But, when we come to diagnosis and symptomatology, we draw a wide line between these two stages of life.

We must remember that the child is yet in his evolutionary stages of development, we have not yet the difficult sexual distinctions, nor the organic complications peculiar to advancing years. The organs are not immature, the intestinal canal in its various segments bears different relations to those found in the adult; the cecum may have not yet descended, or is not definitely fixed; the child's pelvis is shallow, and the bladder is much more uncovered by peritoneum than the adult's; hence, why paresis of the bladder and painful evacuation of it is much earlier and more constant sign of appendicitis in the child, than later in life.

In consequence of the absence of abdominal fat the cecum lies more superficial, and is more easily palpated; but as Dr. Joseph H. Byrne, of New York, has demonstrated, conerctions in it may be appreciated with the index finger and thumb, and be safely expressed outward into the cavity of the bowel, in cases of appendicular colic.

COMPLICATIONS, ETC.

It is, therefore, obvious that appendicitis is usually less difficult of detection in the child than after full growth. Complications, it goes without saying, are less frequent, though they are in evidence only too often; as tuberculosis, dysenteric ulceration, intussuseption, worms, enteritis, malaria, displaced kidney, cecal coprostasis, internal hernial strangulation, subphrenic, suprenephric or psoas abscess.

Pharmacology and Therapeutics.

IN CHARGE OF
A. J. HARRINGTON, M.D., M.R.C.S.(Eng.)

FINAL REPORT OF THE CANADIAN COMMITTEE ON THE PROPOSED CANADIAN ADDENDUM TO THE BRITISH PHARMACOPEIA.

In presenting on behalf of the Canadian Medical Association the following report and recommendations as to materials and preparations which should be embodied in the Addendum to the British Pharmacopeia, it is unnecessary that we should again detail the history of that Addendum, this having already been brought to the notice of those specially interested, both by Professor Attfield's circular letter and draft report and in the draft report of the Committee appointed in Montreal, and again in the draft report already circulated by this Committee and printed in the *Canadian Pharmaceutical Journal*, October, 1899.

This final draft report was forwarded to Professor Attfield upon November 17th, 1899, and was discussed on Monday, December 4th, by the Committee charged by the General Medical Council with the drafting of the projected Indian and Colonial Addendum.

From Dr. Attfield, upon December 30th, was received a report embodying the views of the latter Committee. By that body 12 out of 29 articles included in the Canadian Draft Report were at once provisionally accepted; with regard to the rest it was pointed out that several of them should more properly be included not in a special Colonial Addendum, but in the "Additions" to the British Pharmacopeia, which will be printed within the next two years.

Upon consideration of Professor Attfield's very long and full letter, the Canadian Committee, without wishing to force the hands of the central body in London, had determined in this definitive report to arrange its recommendations in three classes, viz.:

1. The articles mentioned in Dr. Attfield's list as already provisionally accepted.
2. Drugs and preparations reaffirmed, if we may so express it, by us for inclusion in Class 1.

3. Those preparations which the Canadian Committee concurs in agreeing, should be considered for inclusion in the next "Additions" of the British Pharmacopeia.

The articles in Class 2 are regarded for Canadian purposes as being in no way behind those in Class 1, either in the matter of being in frequent demand, or in the matter of pharmaceutical value.

We repeat, however, that in making these recommendations, it is not our wish to indicate to the Central Committee in London, that we are not wholly content to leave the decision of these matters in the hands of that body, or that individually or as a whole, the members of the Canadian Committee seriously disagree with the suggested action of that body. Throughout, the desire of this Committee has been to be of use both to Canada and to the authorities in England, and if few or many of the articles in Class 2 gain entrance into the proposed Addendum, we are glad to think that our labors will not have been in vain.

[Signed]

A. D. BLACKADER, M.D.,

Professor of Pharmacology, McGill University.

ROBERT WILSON, M.D.,

Professor of Pharmacology, Bishops College.

H. HERVIEUX, M.D.,

Professor of Pharmacology, Laval University.

J. T. FOTHERINGHAM, M.D.,

Ontario College of Pharmacy.

H. WATERS,

Ex-Pres. Ontario College of Pharmacy.

A. ROBERT,

Pres. Pharmaceutical Assoc., Province of Quebec.

W. H. CHAPMAN,

Pres. Montreal College of Pharmacy.

J. E. MORRISON,

Past-Pres. of American Pharmaceutical Ass'n.

Professor Montreal College of Pharmacy.

T. D. REED, M.D.,

Professor Montreal College of Pharmacy.

J. W. LECOURS,

Professor Montreal College of Pharmacy.

A. B. J. MOORE, Chemist.

J. G. ADAMI, M.D.,

Chairman of Committee.

A. T. BAZIN, M.D.,

46 Richmond Square, *Secretary*.

SECTION I.

*Drugs and Preparations accepted for inclusion in the Canadian
Addendum to British Pharmacopeia.*

1. ARNICÆ FLORES.

The Flowers of Arnica Montana.

Used in preparation of Tinctura Arnicæ Florum.

2. TINCTURA ARNICÆ FLORUM.

(Tincture of Arnica Flowers.)

	Imperial	metric
Arnica Flowers (in No. 20 powder).....	2 ozs.....	100 grammes
Alcohol (45 per cent.)	A sufficient quantity.	

Moisten the powder with four fluid ounces (or two hundred cubic centimetres) of the alcohol, and complete the percolation process. The resulting tincture should measure one pint (or one thousand cubic centimetres).

Dose.— $\frac{1}{2}$ to 1 fluid drachm.

NOTE.—This tincture is the preparation exclusively used in this country.

3. TURPETHUM.

(Turpeth Root.)

The root of Ipomea Turpethum.

Used in Tinctura Jalapæ Composita.

4. TINCTURA JALAPÆ COMPOSITA.

(Compound Tincture of Jalap.)

	Imperial	metric
Jalap (No. 40 powder).....	1 oz., 262 grains	80 grammes
Scammony “	175 grains.....	20 “
Turbeth “	88 “	10 “
Alcohol (60 per cent.)	A sufficient quantity.	

Moisten the powder with two fluid ounces (or one hundred cubic centimetres) of the alcohol, and complete the percolation process. The resulting tincture should measure one pint (or one thousand cubic centimetres).

NOTE.—The ordinary tincture is never called for in Canada, while in the French-speaking Province of Quebec this preparation borrowed from the Codex, is in very frequent demand and is found by the medical profession to be active and reliable.

5. GRINDELIA.

The leaves and flowering tops of *Grindelia robusta* and *G. squarrosa*.

Used in *Extractum Grindeliæ Liquidum*.

6. EXTRACTUM GRINDELLE LIQUIDUM.

(*Liquid Extract of Grindelia.*)

	Imperial	metric
Grindelia (in No. 40 powder)	20 ozs.	1000 grammes
Sodium Bicarbonate	2 "	100 "
Water	10 fluid ozs.	500 cubic centi-
Alcohol (90 per cent.)	A sufficient quantity.	[metres]

Moisten the *Grindelia* with eight fluid ounces (or 400 cubic centimetres) of the Alcohol; macerate in a closed vessel for twenty-four hours; pack the moistened powder in a percolator, and add sufficient of the alcohol to saturate it thoroughly; when the liquid begins to drop, close the lower orifice of the percolator; set aside for twenty-four hours, then allow percolation to proceed, gradually adding the Alcohol until the *Grindelia* is exhausted. Recover the Alcohol by distillation, and dissolve the residue in the water containing the Sodium Bicarbonate, and after effervescence ceases add sufficient of the Alcohol to make twenty fluid ounces (or one thousand cubic centimetres) of Liquid Extract.

Dose.—10 to 20 minims.

7. TRITICUM.

(*Couch Grass.*)

The rhizome of *Agropyrum repens*.

Used in *Extractum Tritici Liquidum*.

8. EXTRACTUM TRITICI LIQUIDUM.

(*Liquid Extract of Couch Grass.*)

	Imperial	metric
Couch grass (cut small)	20 ozs.	1000 grammes
Alcohol (90 per cent.)	5 fluid ozs.	250 cubic centi-
Boiling Water	A sufficient quantity.	[metres]

Digest the Couch Grass with one hundred fluid ounces (or five litres) of Boiling Water for six hours; strain; repeat the operation twice; mix the infusions and evaporate to fifteen fluid ounces (or eight hundred cubic centimetres); add the alcohol; let stand

twenty-four hours and filter. The finished product to be twenty fluid ounces.

Dose.—1 to 2 drachms.

NOTE.—Very often used. All the principles are in solution.

9. VIBURNUM.

(*Black Haw*.)

The bark of *Viburnum Prunifolium*, Linn.

Used in *Extractum Viburni Liquidum*.

10. EXTRACTUM VIBURNI PRUNIFOLII LIQUIDUM.

(*Liquid Extract of Black Haw*.)

	Imperial	metric
Black Haw (in No. 60 powder).....	20 ozs.....	1000 grammes
Alcohol (70 per cent.)	A sufficient quantity.	

Moisten the powdered black haw leaves with about eight fluid ounces (or 400 cubic centimetres) of the alcohol; pack the moistened powder in a percolator, and add sufficient of the alcohol to saturate it thoroughly; when the liquid begins to drop, close the lower orifice of the percolator; set aside for forty-eight hours; then allow percolation to proceed, gradually adding the alcohol until the Black Haw leaves are exhausted; reserve the first seventeen fluid ounces (or 550 cubic centimetres) of the percolate; remove the alcohol from the remainder by distillation; evaporate residue to a soft extract; dissolve this in the reserved portion; add sufficient of the alcohol to produce twenty fluid ounces (or one thousand cubic centimetres) of the Liquid Extract.

Dose.—1 to 2 drachms.

NOTE.—Valuable and much in use.

11. OLEUM GAULTHERIE.

(*Oil of Wintergreen*.)

Distilled from the leaves of *Gaultheria Procumbens* or from the bark of *Betula Lenta*.

Characters and Tests.—Colorless or slightly yellowish tint. Specific gravity 1.180 to 1.187. It should rotate the plane of a ray of polarized light not less than 0.25 degrees to the left in a tube 100 millimetres long (Powers & Kleber).

NOTE.—As an aromatic oil this in Canada is popular with the profession and the laity very much as is peppermint in Great Britain. Therapeutically as methyl salicylate, whether prepared

synthetically or derived from the above-mentioned source, it is of no small value and is frequently prescribed.

12. SYRUPUS FERRI IODIDI.

(*Syrup of Ferrous Iodide.*)

NOTE.—It is recommended that a note be appended to the description of the preparation of Syrupus Ferri Iodidi in future editions of the B. P. to the effect that the amount of sugar may be varied according to the contingencies of climate, so that crystallization be thus prevented.

SECTION II.

Drugs and Preparations which the Canadian Committee reaffirm for inclusion in the Addendum.

1. ELIXIR AURANTII COMPOSITUM.

(*Elixir of Orange.*)

	Imperial		metric
Tincture of Orange.....	2 fluid ozs.	100	cubic centimetres
Tincture of Lemon.....	1 " "	25	" "
Orange Flower Water.....	2 " "	100	" "
Alcohol (90 per cent.).....	3 " "	150	" "
Syrup.....	8 " "	400	" "
Water.....	} Of each a sufficient quantity.		
Kaolin.....			

Mix the Tincture of Orange, Tincture of Lemon, Orange Flower Water, Alcohol, Syrup and four fluid ounces (or 200 cubic centimetres) of water with two ounces of the Kaolin; set aside for twenty-four hours; filter; wash the filter with sufficient water to make twenty fluid ounces (or one thousand cubic centimetres) of Simple Elixir.

NOTE.—In reference to the term "Elixir" this is preferred by the Committee to that of "Syrupus" in that the latter indicates something of a thick syrupy nature. There is a distinct lack of adjuvants of this nature in the B. P., and it is desired to have a thinner liquid than the Syrupus Aromaticus, 1898. No better term than Elixir suggests itself to the Committee, which term, it might be added, is employed in the U. S. P. in this connection, and is familiar to all pharmacists and medical men in America. If "Adjuvans" could be employed it would recommend itself.

2. EXTRACTUM BUCHU LIQUIDUM.

(Liquid Extract of Buchu.)

	Imperial	metric
Buchu Leaves (in No. 40 Powder)	20 ozs.....	1000 grammes
Alcohol (90 per cent.)	A sufficient quantity.	

Moisten the powdered Buchu Leaves with about eight fluid ounces (or 400 cubic centimetres) of the Alcohol; pack the moistened powder in a percolator, and add sufficient of the Alcohol to saturate it thoroughly; when the liquid begins to drop, close the lower orifice of the percolator; set aside for forty-eight hours; then allow percolation to proceed, gradually adding the Alcohol until the Buchu Leaves are exhausted; reserve the first thirteen fluid ounces (or 850 cubic centimetres) of the percolate; remove the Alcohol from the remainder by distillation; evaporate the residue to a soft extract; dissolve this in the reserved portion; add sufficient Alcohol to produce twenty fluid ounces (or 1,000 cubic centimetres) of the Liquid Extract.

NOTE.—The Liquid Extract is commonly prescribed and dispensed, neither the Infusion nor the Tincture being used to any extent.

3. EXTRACTUM PRUNI VIRGINIANÆ LIQUIDUM.

(Liquid Extract of Wild Cherry.)

	Imperial	metric
Wild Cherry Bark (in No. 40 powder)	20 ozs.....	1000 grammes
Glycerin.....	2 fluid ozs.....	100 cubic cent.
Alcohol (45 per cent.)	A sufficient quantity.	

Mix the Glycerin with six fluid ounces (or 300 cubic centimetres) of the Alcohol; moisten the Wild Cherry Bark with the mixture, and allow to macerate in a tightly-closed vessel for forty-eight hours; pack the moistened powder in a percolator; add sufficient of the Alcohol to saturate it thoroughly; when the liquid begins to drop, close the lower orifice of the percolator; set aside for twenty-four hours; then allow percolation to proceed, gradually adding the Alcohol until the Wild Cherry Bark is exhausted; reserve the first eighteen fluid ounces (or 900 cubic centimetres) of the percolate; remove the Alcohol from the remainder by distillation; evaporate the residue to a soft extract; dissolve this in the reserved portion; add sufficient of the Alcohol to produce twenty fluid ounces (or 1,000 cubic centimetres) of the Liquid Extract.

Dose.—30 to 60 minims.

NOTE.—A more concentrated preparation than the Tincture is desired, and the Liquid Extract is in great demand in Canada.

4. EXTRACTUM SENEGÆ LIQUIDUM.

(Liquid Extract of Senega.)

	Imperial	metric
Senega (in No. 40 powder).....	20 ozs	1000 grammes
Solution of Potash.....	1 fluid oz.....	50 cubic cent.
Alcohol (70 per cent.)	A sufficient quantity.	

Moisten the powdered Senega with the Solution of Potash and six ounces of the Alcohol; pack the moistened powder in a percolator, and add sufficient of the Alcohol to saturate it thoroughly; when the liquid begins to drop, close the lower orifice of the percolator; set aside for forty-eight hours; then allow percolation to proceed, gradually adding the Alcohol until the Senega Powder is exhausted; reserve the first seventeen fluid ounces (or 850 cubic centimetres) of the percolate; remove the Alcohol from the remainder by distillation; evaporate the residue to a soft extract; dissolve this in the reserved portion; add sufficient of the Alcohol to produce twenty fluid ounces (or 1,000 cubic centimetres) of the Liquid Extract.

Dose.—5 to 20 minims.

NOTE.—A more concentrated preparation than the tincture is desired, and the Liquid Extract is in great demand in Canada.

5. SYRUPUS IPECACUANHÆ.

(Syrup of Ipecacuanha.)

	Imperial	metric
Liquid Extract of Ipecacuanha.....	1 fluid oz.....	50 cubic cent.
Acetic Acid	96 minims.....	10 "
Glycerin	2 fluid ozs.....	100 "
Sugar.....	14 ozs.....	700 grammes
Water.....	A sufficient quantity.	
Kaolin.....	" "	

Mix the Liquid Extract of Ipecacuanha, Acetic Acid and ten fluid ounces (or 500 cubic centimetres) of water; filter through Kaolin into a vessel containing the Glycerin; add the sugar and dissolve without the aid of heat; strain and add the water to make twenty fluid ounces (or 1,000 cubic centimetres) of the Syrup.

Dose.—1 to 2 drachms.

NOTE.—Strongly recommended. Prepared as above it accords in strength with the wine.

6. SYRUPUS SENEGÆ.

(Syrup of Senega.)

	Imperial	metric
Liquid Extract of Senega.....	4 fluid ozs.....	200 cubic cent.
Sugar.....	14 ozs.....	700 grammes
Water.....	A sufficient quantity.	
Kaolin.....	" "	

Mix the Liquid Extract of Senega with ten fluid ounces (or 550 cubic centimetres) of water; filter through Kaolin, washing the filter with distilled water; dissolve the sugar in the filtrate; strain and add water to make twenty fluid ounces (or 1,000 cubic centimetres) of the Syrup.

Dose.— $\frac{1}{2}$ to 1 fluid drachm.

NOTE.—Preferred to Tincture. It is not thought advisable to recommend the use of the Concentrated Liquor, as this class of preparation has not proved popular in the country.

7. TINCTURA OPII DEODORATA.

(*Deodorized Tincture of Opium.*)

	Imperial	metric
Opium	3 ounces	150 grammes
Alcohol (90 per cent.)	} Of each a sufficient quantity.	
Distilled Water		

Rub the opium to a paste with ten fluid ounces (or 500 cubic centimetres) of the distilled water, previously heated to at least 200 deg. F. (93.3 deg. C.), set aside for six hours, and strain through a calico filter. To the residue add another five ounces (or 250 cubic centimetres) of the water; mix thoroughly; set aside in a covered vessel for six hours; strain; press; mix the liquids, and allow to stand for twelve hours in a vessel surrounded by ice; filter through a pleated filter containing a piece of ice. Evaporate the liquid to 5 ounces (or 250 cubic centimetres) of the Alcohol. Set aside for twenty-four hours; filter. Determine the percentage of morphine in the liquid by the process given under Tincture of Opium; and to the filtered liquid add a sufficiency of a mixture of equal parts of alcohol and water, so that the resulting tincture will contain not less than 0.70 grammes, nor more than 0.80 grammes, in one hundred cubic centimetres.

Dose.—5 to 15 minims for repeated administration.

For a single administration 20 to 40 minims.

NOTE.—This is much needed; the process of deodorisation and preparation by this method does not weaken the opium, while a more elegant preparation is obtained which is useful, especially when it is desired to mask the drug. Very satisfactory, popular, and in demand all over Canada.

8. HYDRARGYRI IODIDUM FLAVUM.

(*Yellow Mercurous Iodide.*)



Mercurous Iodide obtained by interaction of mercurous nitrate and potassium iodide.

Characters and Tests.—A bright yellow amorphous powder, almost insoluble in water, entirely insoluble in alcohol and ether.

Treated with ten times its volume of Alcohol (90 per cent.); the latter filtered on evaporation should not yield more than a trace of red residue of Mercuric Oxide.

NOTE.—Made according to this formula it is stable when protected from the light, much more stable than the green iodide, while being of definite composition and definitely active; further, it is in much demand.

9. LIQUOR ALDEHYDI METHYLICI.

(*Solution of Methylic Aldehyde.*)

Synonym:—Formic Aldehyde.

A 40 per cent. Aqueous Solution of Methyl Aldehyde Gas produced by the oxidation of Methyl Alcohol, specific gravity from 1085 to 1090. A clear, colorless liquid, with a pungent and irritating odor, soluble in alcohol and water.

SECTION III.

For inclusion in next "Additions" to B. P.

1. EMULSUM OLEI MORRHUE.

(*Emulsion of Cod Liver Oil.*)

	Imperial	metric
Cod Liver Oil.....	8 fluid ozs.....	500 cubic cent.
Gum Acacia (in powder).....	2 ozs.....	125 grammes
Syrup.....	1 fluid oz.....	62.5 cubic cent.
Oil of Bitter Almonds.....	2 min.....	0.3 "
Water.....	A sufficient quantity.	

Triturate the Cod Liver Oil and Gum Acacia together; add five fluid ounces (or 313 cubic centimetres) of water, and stir briskly; when the emulsion is formed add the Oil of Bitter Almonds, the Syrup, and sufficient water to make sixteen fluid ounces (or 1,000 cubic centimetres).

NOTE.—In response to the constant demand for an emulsion and as a useful basis for the administration of creosote, hypophosphites, etc. As this emulsion contains 50 per cent. of oil it cannot be kept for long periods, as can many proprietary emulsions containing a much smaller amount. By the described method it can be made up in large or small quantities in a very short time and made thus it preserves its characters for two weeks or more.

In place of Oil of Bitter Almonds, other flavorings may be introduced as desired.

2. EXTRACTUM HYOSCYAMI LIQUIDUM.

(Liquid Extract of Henbane.)

	Imperial	metric
Henbane Leaves (in No. 40 powder)	20 ozs.	1000 grammes
Alcohol (60 per cent.)	A sufficient quantity.	

Moisten the powdered Henbane Leaves with about eight fluid ounces (or 400 cubic centimetres) of the Alcohol; pack the moistened powder in a percolator, and add sufficient of the Alcohol to saturate it thoroughly; when the liquid begins to drop close the lower orifice of the percolator, set aside for forty-eight hours, then allow percolation to proceed, gradually adding the Alcohol until the Henbane Leaves are exhausted; reserve the first seventeen fluid ounces (or 850 cubic centimetres) of the percolate; remove the Alcohol from the remainder by distillation; evaporate the residue to a soft extract, dissolve this in the reserved portion and add sufficient of the Alcohol to produce twenty fluid ounces (or 1000 cubic centimetres) of the Liquid Extract.

NOTE.—More reliable than the Succus as obtained in Canada, and contains less alcohol than the Tincture.

3. LIQUOR ANTISEPTICA AROMATICA.

(Aromatic Antiseptic Solution.)

	Imperial	metric
Benzoic Acid	88 grains	10 grammes
Boric Acid	175 "	20 "
Borax	88 "	10 "
Thymol	18 "	2 "
Eucalyptol	10 minims	1.6 cubic cent.
Oil of Wintergreen	10 "	1.6 "
Oil of Peppermint	6 " . . . . .	.96 "
Glycerin	2 fluid ozs.	100 "
Alcohol (90 per cent.)	6 "	300 "
Water	A sufficient quantity.	
Kaolin	" "	

Dissolve the Thymol, Oil of Wintergreen and Oil of Peppermint in the Alcohol; dissolve the Benzoic Acid, Boric Acid and Borax in twelve fluid ounces (or 600 cubic centimetres) of the water; add the Glycerin; mix the two solutions; set aside for twenty-four hours; filter through Kaolin, and add sufficient water to make twenty fluid ounces (or 1000 cubic centimetres).

NOTE.—Included because of the absence from the B. P. of any satisfactory preparation of the nature of a nose and mouth wash which is at the same time agreeable to use and antiseptic. For such there is so unmistakable a demand that it should be satisfied even at the cost of the charge of polypharmacy.

4. SYRUPUS ACIDI HYDRIODICI (2 per cent.).

(*Syrup of Hydriodic Acid.*)

	Imperial	metric
Potassium Iodide.....	236½ grains.....	27 grammes
Tartaric Acid	223 "	25.5 "
Calcium Hypophosphite.....	17½ "	2 "
Water.....	2 fluid ozs.....	100 cubic cent.
Alcohol (45 per cent.).....	A sufficient quantity.	
Syrup.....	" "	

Dissolve the Potassium Iodide and Calcium Hypophosphite in two fluid ounces (or 100 cubic centimetres) of the water; dissolve the Tartaric Acid in one fluid ounce (or 50 cubic centimetres) of the Alcohol; mix the solutions; shake well and set aside in ice water for half an hour; then filter through a small filter, washing the filter with the Alcohol till the filtrate amounts to three fluid ounces (or 150 cubic centimetres), mix this solution with sufficient syrup to produce twenty fluid ounces (or 1000 cubic centimetres).

NOTE.—Official in the U. S. P. (1 per cent.), but 2 per cent. is frequently demanded, and therefore meets all requirements. In the '80 edition of the U. S. P. it was directed that the syrup be made from the acid which was prepared direct from iodine, but in the '90 edition it was directed to be prepared by the interaction of tartaric acid and potassium iodide, a simpler and more satisfactory process.

5. FERRI HYPOPHOSPHIS.

(*Ferric Hypophosphite.*)



Ferric Hypophosphite obtained by the interaction of Calcium Hypophosphite and Ferric Chloride.

Characters and Tests.—A grayish white powder; only slightly soluble in water; entirely soluble in solution of potassium citrate, forming a green solution. Should give no reaction for carbonates phosphate.

NOTE.—Used in preparation of Syr. Hypophosphitum.

6. FERRI PHOSPHAS SOLUBILIS.

(*Soluble Ferric Phosphate.*)

	Imperial	metric
Solution of Ferric Sulphate.....	10 fluid ozs.....	200 cubic centim.
Solution of Ammonia.....	23 "	460 "
Citric Acid	4 ounces.....	80 grammes
Sodium Phosphate.....	6 "	120 "
Water.....	A sufficient quantity.	

Mix sixteen fluid ounces (or 320 cubic centimetres) of the solution of Ammonia with two pints (or 800 cubic centimetres) of distilled water; gradually add to this the solution of Ferric Sulphate, previously diluted with two pints (or 800 cubic centimetres) of distilled water; stir constantly and briskly, keeping the ammonia in excess; set aside for two hours, stirring occasionally; pour it on a calico filter, and wash with distilled water until free from Sulphates. Dissolve the Citric Acid in its own weight of water; warm the solution on a water bath; add the Ferric Hydroxide, previously well drained; stir them together until nearly the whole of the Hydroxide has dissolved, or until the Citric Acid is saturated with Ferric Hydroxide, add the Sodium Phosphate and stir till it is dissolved; strain through flannel, adding some distilled water if necessary. Evaporate to the consistence of syrup; and spread it on plates of glass, so that, when dry, the salt may be obtained in scales.

NOTE.—Largely prescribed by the profession in Canada.

7. SYRUPUS FERRI PHOSPHATIS COMPOSITUS.

(*Compound Syrup of Ferrous Phosphate.*)

	Imperial		metric
Iron Wire	37½ grains.....		4.3 grammes
Precipitated Calcium Carbonate.....	120 “		13.7 “
Potassium Acid Carbonate.....	9 “		1 “
Sodium Phosphate.....	9 “		1 “
Cochineal.....	30 “		3.5 “
Sugar	14 ounces.....		700 “
Phosphoric Acid.....	A sufficient quantity.		
Water.....	“ “		

Dissolve the Iron Wire in one fluid ounce (or 50 cubic centimetres) of Phosphoric Acid and half an ounce (or 25 cubic centimetres) of water in a flask, heating gently till dissolved. Dissolve the Precipitated Calcium Carbonate, Potassium Carbonate and Sodium Phosphate in half an ounce (or 25 cubic centimetres) of Concentrated Phosphoric Acid and two ounces (or 100 cubic centimetres) of water. Mix the solutions, filter and set aside. Boil the cochineal and six fluid ounces (or 300 cubic centimetres) of water for fifteen minutes; cool, filter and wash the filter with sufficient water to make seven fluid ounces (or 350 cubic centimetres). In this dissolve the sugar with the aid of heat, and strain. When cold, add the solution of phosphates and sufficient water to measure twenty fluid ounces (or 1000 cubic centimetres).

NOTE.—Large amounts used.

8. SYRUPUS HYPOPHOSPHITUM.

(Syrup of Hypophosphites.)

	Imperial	metric
Calcium Hypophosphite.....	394 grains.....	45 grammes
Sodium Hypophosphite.....	131 ".....	15 "
Potassium Hypophosphite	131 ".....	15 "
Tincture of Lemon.....	87 minims.....	10 cubic cent.
Sugar.....	14 ounces.....	700 grammes
Water.....	A sufficient quantity.	

Dissolve the Salts in ten fluid ounces (or 400 cubic centimetres) of water, dissolve the sugar in the solution without the aid of heat; add the Tincture of Lemon, and finally enough water to make twenty fluid ounces (or 1000 cubic centimetres) of the Syrup.

Dose.—1 to 2 drachms.

Note.—In frequent demand: contained in the U. S. P.

9. SYRUPUS HYPOPHOSPHITUM COMPOSITUS CUM QUININA ET STRYCHNINA.

(Compound Syrup of the Hypophosphites with Quinine and Strychnine.)

	Imperial	metric
Calcium Hypophosphite.....	80 grains.....	12 grammes
Potassium Hypophosphite.....	40 ".....	6 "
Manganese Hypophosphite	40 ".....	6 "
Iron Hypophosphite.....	40 ".....	6 "
Potassium Citrate	30 ".....	4.5 "
Strychnine Hydrochloride	2 ".....	0.3 "
Quinine Hydrochloride.....	8 ".....	1.2 "
Sugar.....	14 ounces.....	700 "
Water.....	A sufficient quantity.	

Dissolve the Calcium, Potassium, and Manganese Hypophosphite in four ounces (or 200 cubic centimetres) of water; dissolve the Iron Hypophosphite in four ounces (or 200 cubic centimetres) of water with the Potassium Citrate. Mix the two solutions, add the Quinine and Strychnine Hydrochlorides. When dissolved, filter into a vessel containing the sugar and shake until dissolved, strain and add water to measure twenty ounces (or 1000 cubic centimetres).

NOTE.—Here, as in connection with the Liquor Antiseptica Aromat., the Committee is of opinion that public necessity must over-rule considerations of pharmacological value. While experimental proof has not been induced as to the value of this preparation, practitioners so frequently prescribe the syrup of hypophosphites without designating whether proprietary preparations are indicated or the hypophosphites alone, or containing quinine or strychnine, that it is essential for the Pharmacopœia to give some definite formula in order to avoid confusion.

Public Health and Hygiene.

... IN CHARGE OF ...

J. J. CASSIDY, M.D., AND E. H. ADAMS, M.D.

SECOND QUARTERLY MEETING OF THE PROVINCIAL BOARD OF HEALTH.

THE second quarterly meeting of the Provincial Board of Health of Ontario began at 10 a.m. April 24th, and continued during that and the following day. Present: Dr. Vaux (Chairman), Dr. Bryce (Secretary), Dr. Cassidy, Dr. Oldright, Dr. Kitchen, Dr. McCullough, Dr. Douglas.

The special report on the small-pox epidemic of the past quarter was read by Dr. Bryce. It was, he said, the worst outbreak in the province in twenty years, regard being had to the number of municipalities affected rather than to the number of persons attacked or the fatalities which had ensued. It was to the accident of the disease first occurring in lumber camps in unorganized districts that the sudden and widespread character of the epidemic was due. A case at Bracebridge early in February resulted in tracing small-pox to a hitherto unsuspected point, Sudbury, where eight cases had existed unknown to the authorities. The cases at the American Hotel, Sudbury, were reported by the police magistrate as chicken-pox on February 13th, whereas on the day previous the mayor had telegraphed to Dr. Bryce that small-pox existed. It was found that cases of the disease had been reported as grippe, chicken-pox, etc. Within a short time cases were reported from many points in Algoma. In some cases the local health officers persistently refused to recognize the disease as small-pox, and had declared it to be chicken-pox. In almost every instance the hands of the local health boards had been tied, and the disease had spread thereby.

It might be excusable in a physician to make a mistake in diagnosis, but to persist therein to the detriment of the public was enough, in Dr. Bryce's opinion, to characterize him as an enemy of the State. Dr. Bryce went on to say that the conduct of certain physicians in opposing the health authorities was worthy of severe reprobation. In view of the privileges accorded to the profession, the Ontario Medical Council, he recommended, should summon

such offenders before it and punish them. They were more dangerous to the community than self-confessed quacks.

Equally to be reprobated were those medical men who had issued certificates and required money for the same, saying that the holders had been vaccinated when such was not the case. The train inspectors had discovered many cases. As an instance, Dr. Bryce said that in one well-authenticated case, a doctor had issued certificates at a dollar apiece to thirty lumbermen, without examining one of them. The men simply walked past his desk, and he issued certificates as fast as he could write their names.

Dr. Bryce went on to show the enormous extent of the country the department has been obliged to cover in their efforts to stamp out small-pox. In New Ontario the lines of communication by railway, lake, and river totalled 5,755 miles; the lumbermen in the woods in the winter totalled 25,000, and there were 400 surveyed townships, with scattered settlements. For the most part this territory was unorganized for municipal purposes.

Dr. Hodgetts, chief inspector for the Government in the organized districts, gave a supplementary report as to the preventive measures. Praise was given to the health officer at Sault Ste. Marie. Accompanying the report was a schedule, showing the centres and the cases, which latter numbered 430. In London and Middlesex County the source of infection is unknown, although one case has been traced to Cleveland, Ohio. In the other older settled districts, including Toronto, the infection has been traced directly or indirectly to the Sudbury district, and other points in Algoma. There were scattered cases through Carleton, Hastings, Haldimand, Huron, Lennox and Addington, Leeds and Grenville, Norfolk, Ontario, Simcoe, Victoria, Northumberland and Durham, and Muskoka. But the disease really flourished in Algoma, Renfrew, and Nipissing. Nearly every municipality in these districts was affected, more or less. In Algoma and Nipissing cases of disease going through entire lumbermen's boarding houses, were chronicled, while in other districts cases of small-pox going through an entire family were shown. The number of deaths reported was, however, almost incredibly small, less than one per cent.

The question of vaccination was dealt with in the general report on contagious diseases, which was read and passed at the morning session.

In a report of contagious diseases for the quarter, Dr. Bryce went thoroughly into the question of small-pox, stating that there were fifty centres of small-pox in Ontario—the most serious outbreak in the history of the Board. Not only is the disease prevalent throughout Ontario, but also throughout the United States, there having been thirty-two deaths from it in the State of New York during March.

Many of the lumbermen in Ontario have not been vaccinated, and would be in a bad way should small-pox break out in the camps.

Anti-vaccinationists have done not a little harm in raising a cry against inoculation, when history for the past hundred years has proved that vaccination either wards off or modifies the attack.

Local health authorities should take precautions against the spread of the dread disease. Not only should all children be vaccinated, but eight days after vaccination should be examined by the medical health officers, who shall ascertain whether or not the vaccination has proved successful before giving a certificate. In the course of his report the doctor asserted that he had heard, on good authority, that some doctors gave an applicant a powder, supposed to contain vaccine, which he or she was instructed to place upon the tongue. This, by some homeopaths, was believed to be a satisfactory vaccination, said Dr. Bryce.

But in one instance a doctor was known to have given a powder to an applicant, together with a certificate of vaccination. The powder was taken home and dumped into the sink, while the certificate was held as proof (?) of vaccination.

In conclusion, the report emphasized the importance of vaccination, referring to many prominent authorities to substantiate the stand taken. "The urgency of the situation," said the report, "demands that this Board make public its views on a subject which the public have been ignorant or careless of, and that it impress its views in the most positive manner upon local health authorities in all parts of the Province."

Dr. Bryce included in his report references to other infectious diseases. The increase of deaths from consumption had been very marked, being 236 from the beginning of the year to March 31st, as compared with 186 deaths for the same period last year. There has been a large increase in diseases of the respiratory organs, but no marked increase in contagious diseases. In fact, there had been a slight decrease in scarlet fever, and a very slight increase in diphtheria.

Reference was also made to the bubonic plague in California. Notwithstanding reports to the contrary, the report read, it is quite evident to medical men that the plague has obtained a hold on that State.

In the general correspondence it was shown that in reply to a query from Ayr as to the infection of public library books, Dr. Bryce had recommended the use of steam sterilizers. An outbreak of a horse disease of a mysterious character was reported from Little Britain.

During the morning session (April 25th), the Board received unsatisfactory advices regarding the small-pox cases on the Brant

County Indian Reserve, and immediately took energetic steps to stop the spread of the disease. Dr. Secord, the physician on the reserve, and the local boards, sent representations that the disease had existed there and been suppressed for several weeks, with persons coming and going all the time. In all five cases are now known to exist. The Board then, on motion of Dr. Cassidy, seconded by Dr. Oldright, passed the following resolution:

"In view of the facts regarding the outbreak of small-pox on the Mohawk Indian Reserve, and in consequence of the requests from the Boards of Health of Caledonia, Brantford and Hamilton, the Provincial Board of Health hereby instructs the Local Boards of Health of Brantford, Caledonia and Onondaga, and other municipalities bordering on the reserve, to require certificates of recent vaccination and of non-exposure to small-pox before allowing persons from the reserve to enter their respective municipalities."

The greater part of the day was spent in formulating regulations under the new Act respecting health protection in the unorganized districts of Ontario. These regulations have been found necessary in order to conserve the public health and to place the financial responsibility on those directly benefited instead of upon the whole Province. The clauses provide that certain sanitary methods must be adopted in the construction of camps and works, and a medical man appointed and paid by the companies employing men. The regulations also provide for the appointment and payment of sanitary inspectors in the small settlements on the lake shore and along the railway lines, which have no municipal organization. Another clause requires the vaccination of all employees of lumber and mining camps.

The following standing committees were appointed for the year: Epidemics, Drs. Cassidy, Bryce, and Oldright; Water Supplies, Drs. Douglas, Vaux, and Bryce; Sewerage, Drs. Kitchen, Bryce, and Douglas; School Hygiene, Drs. Cassidy, Oldright, and Bryce; Legislation, Drs. McCullough, Oldright, and Bryce; Food, Drinks, and Poisons, Drs. Kitchen, Bryce, and McCullough.

Drs. Oldright and Cassidy were appointed a committee to draft resolutions of condolence to the families of the late Dr. J. D. Macdonald, of Hamilton, and C. W. Covernton, of Toronto, former members of the Board.

The plans for a sewerage system for the town of Cobourg were approved of, with certain provisions.

A case of small-pox from Lakefield, Peterboro' County, was reported. It was stated officially that the next meeting of the Board would be in Brantford, June 25th, 1901.

REPORT OF DEATHS FROM ALL CAUSES AND FROM CONTAGIOUS DISEASES IN ONTARIO FOR THE MONTHS OF OCTOBER AND NOVEMBER, 1900.

PREPARED BY P. H. BRYCE, M.A., M.D., DEPUTY REGISTRAR-GENERAL.

OCTOBER, 1900.

Total Population Reporting.	Total Municipalities Reporting.	Total Deaths Reported.	Rate per 1,000 per annum from all causes.	Scarlatina.	Rate per 1,000 per annum.	Diphtheria.	Rate per 1,000 per annum.	Meadles.	Rate per 1,000 per annum.	Whooping Cough.	Rate per 1,000 per annum.	Typhoid.	Rate per 1,000 per annum.	Tuberculosis.	Rate per 1,000 per annum.
2,214,150 97%	716 92%	2,056	11.1	8	0.04	44	0.2	2	0.01	10	0.05	120	0.6	169	0.9

NOVEMBER, 1900.

2,095,471 92%	740 95%	1,984	11.3	11	0.06	50	0.3	3	0.01	20	0.1	141	0.8	161	0.9
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Population of Province 2,283,182
Registration Divisions of Province..... 777

Selected Articles.

THE TREATMENT OF SUMMER DIARRHEA IN INFANTS.

BY CHARLES GILMORE KERLEY, M.D., OF NEW YORK,

Lecturer on Diseases of Children in New York Polyclinic Medical School and Hospital; Assistant Physician to Babies' Hospital.

ONE who has had clinical advantages among children in New York City during the hot months for several seasons necessarily comes in contact with a large number of cases of summer diarrhea. A brief review of observations made and conclusions arrived at may not be without value to those whose labors are more particularly in other fields.

Intercourse with physicians from various sections of the country, in post-graduate class-room, in consultation and in private practice, demonstrates that the true nature of summer diarrhea in infants is not appreciated by the rank and file of the profession. The erroneous teachings of the past appear difficult to break away from. The popular conception of the management of this disease is to give a dose of castor oil and then by any means possible to diminish the number of the passages, regardless of its effect upon the patient.

The somewhat comprehensive term, summer diarrhea, is used because it covers the subject-matter better than any other. A classification founded upon the appearance of the stools is impossible, as the appearance often changes from one hour to another. The age of the child, the previous diet, the nature of the infection, the stage of the illness, all influence the character of the passages. A classification based upon the lesion is only possible at the autopsy. At the onset of the illness no lesions exist. Bacteriologic examination of the stools is our only means of classification, and our knowledge of the bacteriology of the intestinal contents in summer diarrhea is not very far advanced and for some time to come will not be of avail to the physicians who are treating the great majority of these cases. If they will believe, however, with bacteriologists and clinical workers in diseases of children whose opinions are worth anything, that in summer diarrhea we have a disease due to virulent organisms, much will be accomplished. In a child ill with this disorder we have a child poisoned. There

may be a direct infection through the means of contaminated food, infected feeding apparatus, or by any means whereby bacteria may pass into the gastro-intestinal tract.

The extremely acute cases with excessive vomiting, purging, marked prostration and rapid loss of flesh, so-called cholera infantum, are no doubt due to direct infection. The infection may also take by indirect or autoinfection. The food is unsuitable or given improperly. Indigestion results and a culture field is prepared. Excessive heat plays a most important part in autoinfection. Through its influence the bodily functions are all depressed, the bile and the digestive juices, the natural disinfectants, are not furnished to the gastro-intestinal tract in the required strength and volume, with the result that the pathogenic organisms always present in the intestine are given an opportunity for vigorous growth and development. The undigested milk at the temperature of the body furnishes an ideal culture medium. We thus have at the commencement of the disorder a poisoning process at work with the *contents* of the intestine involved, and not the intestinal structure.

Summer diarrhea differs from any other ailments of early life in that there is no tendency for it to get well if left to itself. It is a disease which must be treated upon the appearance of the first symptom, and treated vigorously. If properly-directed treatment can be carried out promptly we can almost always relieve the patients before the bacteria and their products have produced inflammatory and ulcerative lesions, before grave changes have taken place in the liver and kidneys, organs which are particularly liable to become affected by toxic products in the circulation. Autopsies personally made upon 226 children dying with summer diarrhea show lesions which in extent and severity correspond very closely with the duration of the illness. In intensely toxic cases which die within two or three days, very slight changes are found in the intestines. Small local areas of congestion, a slight swelling of the lymph nodes, with here and there desquamation of the epithelium, constitute the changes that have taken place. In prolonged cases which die after two to four weeks' illness, ulceration to a considerable extent is to be found.

With the nature of the disease appreciated the rational treatment is simple. It consists chiefly in elimination and diet. Endeavor to remove from the digestive tract the bacteria and their products and to give nourishment which will not furnish a medium for their growth and development. If the case is of a normal type with green, loose stools containing undigested milk and mucus, a teaspoonful of castor oil or one grain of calomel in divided doses (one-tenth of a grain hourly) should be given. If the case is not seen until two or three days have elapsed and the stools are fre-

quent, from eight to twelve in twenty-four hours, the castor oil should be omitted. A smaller amount of calomel (one-fourth of a grain in one-twentieth-grain hourly doses) is indicated in these active cases. Cases are not infrequently seen in which the stools are infrequent—but two or three in twenty-four hours. The passages are usually very foul and contain a large amount of mucus. There is considerable prostration with low fever. When these symptoms are present active purgation is required, and a teaspoonful or two of castor oil should be followed in twenty-four to forty-eight hours by a grain of calomel in divided doses. If vomiting is present neither the castor oil nor the calomel should be given until the vomiting has been controlled by the diet and stomach-washing.

The physician who wishes to do his full duty to the patient must stop the milk diet at once. It matters not whether the diet is breast milk or cow's milk, or whether the cow's milk is sterilized or not sterilized. It matters not whether the milk is peptonized or not peptonized. If the diet is condensed milk, goat's milk, or any of the meal foods containing evaporated milk, they must be discontinued with the first indication of illness. It matters not whether the stools are frequent or infrequent, neither does the character of the stool cut any figure; as long as it shows evidence of intestinal derangement the milk diet must be discontinued. The younger the patient the more imperative the necessity of discontinuing the milk. In some it will not be necessary to keep milk from the child more than twenty-four hours. Others will not be able to take it with safety for weeks. Other nourishment must be substituted, and this can be done regardless of the age of the patient. It is useless to give laxatives and wash out the few bacteria and then feed milk to the hosts that remain. The milk is also harmful, although to a lesser extent, in that undigested curds form which pass the entire length of the intestinal tract, causing pain and exciting peristalsis.

If milk is to be discontinued what is to be the diet? The nature of the nourishment and the amount given depend somewhat upon the nature of the case. If there is vomiting as well as diarrhea the stomach must be washed and nothing whatever given for a few hours, when a teaspoonful of water may be tried. If the water is retained it may be repeated every fifteen minutes. If it is vomited, feeding by gavage* should be brought into use. If the water is retained it may be followed by an equal amount of dextrinized barley-water. The next step is to give increased quantities of dextrinized barley-water at long intervals.

If the case is one of diarrhea alone without vomiting, I instruct the mother to give from three to five ounces of the dextrinized

* "Gavage in Obstinate Vomiting, Kerley." *Archives of Pediatrics*, February, 1892.

barley, either plain or salted, to which is added from one to two ounces of chicken, beef or mutton broth. These may be alternated with a teaspoonful or two of beef juice or one dram of liquid peptonoids which is added to the barley. Children soon tire of any one article of diet other than milk if it is the only nourishment given. The various substitutes suggested to be added to the barley change the taste, and its use can be continued for weeks if necessary. The broths must be given cautiously, as in some patients they have a decidedly laxative effect.

I have practically discontinued the use of the white of egg in the water. Many children fail to digest it, and when such is the case it produces almost as much disturbance as milk. The amount of the diet selected that may be given at one feeding should correspond to the amount in ounces of the nourishment given in health, but it should be given at shorter intervals. I allow a child to be fed every two hours if he will take it. If there is much thirst plain boiled water may be given at any time.

For the past year I have been using the barley dextrinized for the reason that if the cereal is predigested a stronger mixture can be taken and just so much more nourishment furnished the patient. If thick, non-dextrinized barley is used, or if a weaker barley or wheat or rice-water is used for a considerable time, there is apt to be indigestion, fermentation and colic. My instructions to the mother are as follows: Add two even tablespoonfuls of barley or wheat flour to one pint of water. This is to be boiled twenty minutes and strained, boiled water being added to make the quantity one pint. When the mixture has cooled to the temperature of 100 degrees F. add one teaspoonful of Cereo, which is a preparation of diastase made for this purpose. If barley is used in this strength it will furnish the child a food containing approximately .3 proteids, .07 fat, and 2 soluble carbohydrates. If wheat flour is used, the mixture will contain approximately .4 proteids, .046 fat, and 2.4 soluble carbohydrates.

Upon resuming the milk diet grave errors are often made in giving too strong a milk mixture. The use of milk must not be commenced until the stools are nearly normal, with not over three in twenty-four hours. Not more than one teaspoonful of milk should be added to each feeding of the cereal water for the first twenty-four hours. If this is well borne the quantity may be increased one teaspoonful every day. When six teaspoonfuls can be taken without harm the increase may be made at the rate of half an ounce per feeding every two or three days until the customary milk strength is reached. If there is a return of the diarrhea upon using the milk it must be discontinued at once. The mother or nurse must be instructed to do this on their own responsibility. In a few there will be no unpleasant results if the

milk is commenced in from one-fourth to one-third the usual strength. It is a dangerous practice, however, to begin so strong a mixture. Time and again I have known the disease to return in a greatly aggravated form for this reason. After a severe attack of summer diarrhea many children will be able to digest but a very weak milk mixture for the entire summer. Every year we have a few who cannot return to the use of milk in the smallest quantity until October or November. In these cases scraped beef, beef juice and predigested cereals are our main reliance. Occasionally these cases will be able to digest and exist upon proprietary food until the advent of settled cool weather. A teaspoonful or two of one of the soluble proprietary foods may be added to each feeding of the dextrinized barley.

In the breast-fed the attacks are not apt to be so severe, and they usually can return to the breast after twenty-four or forty-eight hours.

Among the long list of drugs which have been used and advocated for this trouble there are but few that are worth mentioning. I use practically but four, castor oil and calomel, already referred to, bismuth subnitrate (Squibb's) and opium. Salol, resorein, the naphthol preparations, so-called intestinal antiseptics, furnish no aid in handling these cases, and are very apt to upset the stomach. The new astringents, tannigen and tanalbin, have a very limited field of usefulness. The disinfection of the intestine in the use of drugs through the means of the drug coming in contact with the bacteria and destroying them is not possible of accomplishment with any drug known at the present time.

The growth and development of bacteria may be prevented, however, by other means than by drug contact. A culture-field must be made as inhospitable as possible. This is best accomplished by withholding the milk diet and in the use of large doses of subnitrate of bismuth—bismuth subnitrate, 12 to 20 grains; aromatic syrup of rhubarb, 3 minims; water to make one dram. The addition of the aromatic syrup of rhubarb makes a very palatable mixture. The above amount is given early in a severe case, once in two hours to those less urgent.

Opium should always be given with caution and with special indications. It should never be given when the passages are less than four in twenty-four hours. I rarely give it unless the passages are more than six or seven. It is given only when the passages are very frequent or when they are large and watery. In the cases in which there is considerable fever and prostration, evidence of considerable systemic poisoning, from four to six passages are a benefit. These are to be looked upon as drainage. If this drainage is cut off by the use of astringents and opium, the temperature rises, the patient becomes rapidly septic and dies, but

the doctor has the satisfaction of having controlled the diarrhea. When opium is to be used I prefer to give it in the form of Dover powder; from one-fourth to one-half a grain every two or three hours for a child 8 months of age.

The cases already referred to in which there are infrequent foul stools, prostration and stupor require only calomel and castor oil, diet and bowel irrigation. For the fever, packs, baths and sponging are all that are necessary. In case a heart stimulant is necessary, avoid alcohol, for the reason that it is very liable to derange the stomach and injure the already overworked kidneys. Strophanthus, strychnine and digitalis may be used as in other diseases when a heart stimulant is necessary. In cases of direct infection, with marked prostration and uncontrollable vomiting, a hypodermic of morphine is always of service. For a child one year old, 1-100 grain may be given with 1-600 grain atropia.

As with all useful measures irrigation of the colon has been overdone. I fail to understand why a colon that is emptying itself every thirty to ninety minutes requires washing out. If the physician will take the trouble to irrigate one of these active cases after a passage he will find the water returning clear. Irrigation is of the greatest service when the stools are infrequent and foul. It is also useful in active cases, those having from six to eight passages daily, particularly if there is any blood or much mucus. The irrigations are carried out at eight, twelve, or twenty-four hour intervals, depending upon the nature of the case. As a rule a one per cent. boracic-acid solution or a normal salt solution (heaping teaspoonful to the pint) is employed. If the amount of mucus is very large, or if the stools contain blood, a one-per-cent. solution of tannic acid is used instead. It is well to prepare two quarts of the solution to be used and discontinue when the water returns clear. The temperature of the solution should range between 95 degrees and 100 degrees F., except in cases of high fever, where it may be used as cold as 60 degrees F. When the child is moribund and athreptic, with low temperature and low vitality, hot water acts as a decided stimulant.

For irrigation a soft rubber catheter, No. 14 English, one that will not bend on itself if used properly, is attached to a fountain syringe, the bag of which should be held three feet above the patient's bed. The child must lie on the back or left side, with legs well drawn up. The tip of the well-oiled catheter is passed into the rectum. When an introduction of two inches has been effected, allow the water to pass in slowly. The water will distend the parts and facilitate the further introduction of the tube. Press the folds of the buttocks together until the colon is filled. This in a child of eighteen months of age will require twenty-four to thirty ounces of water. When this, or a lesser amount, at least

one pint, has passed in allow the solution to run in and out at the same time, the water being forced out alongside the tube.

A word regarding prophylaxis may not be amiss. It is not enough that the child be given sterilized milk and breast milk; he must be made comfortable. The clothing should be of the lightest and on very hot days he should be in the open air in the shade, if in the country; if in the city, the coolest room in the house or apartment is far better than hot, dusty streets. Whether in the city or country two or three fifteen-minute spongings with water at 60 degrees F. will make the child ever so much more comfortable. Further, we know the digestive capacity is lessened during the heated term, and the milk should be reduced in strength from one-fourth to one-third on the very trying days, adding water to replace the quantity removed.

The mother should always wash her hands most carefully with soap and hot water before preparing the infant's food, before handling nursing bottle, nipples, or any nursing apparatus. The infection may be carried to the feeding utensils by the hands of the mother, other children may become infected, or reinfection take place in the one already ill. A child with summer diarrhea should not come in contact with other young members of the family, for summer diarrhea unquestionably must be placed in the list of communicable diseases.—*Medical News*.

A MEDICAL WORK SEVEN THOUSAND YEARS OLD.

FULL TRANSLATION JUST COMPLETED OF THE EBERS PAPYRUS,
AN EGYPTIAN BOOK DEVOTED TO THE DISEASES
OF MAN, AND THEIR CURE.

For 2,300 years Hippocrates of Kos has been known to the world as the "Father of Medicine." This distinction, however, has been wrested from the ancient Greek by the discovery and translation of an early Egyptian papyrus treating of the subject of medicine, with date so remote as almost to place Hippocrates within the ranks of modern physicians.

English medical literature is about to be enriched by the translation of this papyrus, generally admitted by Egyptologists to be the oldest book devoted to the science of medicine extant. The work is known to scientists as the Papyrus Ebers, and is supposed to have been written during the reign of Bieheres, a king of the fourth dynasty, 4688 to 4666 B.C. Thus the original document is nearly 7,000 years old, and it contains the written genesis of the art of healing.

Although brought to light in 1873, no complete translation of the Papyrus Ebers has been made. The document is carefully preserved in the library of the University of Leipsic, and it remained for a Chicago man to make the first English, and the only complete translation. The work was undertaken about a year ago by Dr. Karl H. Von Klein, of Chicago, a well-known student of the Oriental languages, and the author of a number of medical works, among them a book on the "Medicine of the Talmud." Dr. Von Klein is a member of the various medical and scientific societies of the world, and devotes his labors exclusively to the translation of medical works. His English translation of Papyrus Ebers, a volume of several hundred pages, will soon be ready for the press.

Page 98 of the Papyrus Ebers is devoted almost entirely to remedies for household ills. Its contents clearly indicate that the ancient Egyptian housewife was beset with cares similar to those of the modern housekeeper. It reveals likewise the fact that women early made use of cosmetics. The remedy given for the falling out of the hair is ascribed to the mother of King Teta of the first dynasty. The contents of page 98 are as follows:

"Lines 1 to 2—Preparation to prevent mice from getting into articles.

"Lines 2 to 6—Preparation to prevent hawks from stealing.

"Lines 6 to 9—Preparation to prevent rats from eating corn in granary.

"Lines 12 to 21—Preparations for making housekeeping pleasant, followed by a recipe for fumigation."

Instructions for the mixing of a compound containing dry myrrh, juniper berries, incense, mystic branches, buckthorn, nebat and raisins are given, with the information that they are to be mixed and placed over the fire.

The author gives directions for a similar preparation, to which is added honey, the whole to be boiled, mixed, and made into little pills, which are to be used by women for scenting purposes. Other pills concocted in a somewhat similar manner are for scenting the breath.

A tonic for the hair, a medicine for removing superfluous hair, and a hair dye complete the page.

To Egyptologists, the story of the finding of Papyrus Ebers possesses all the characteristics of a romance. In the winter of 1872-73 Georg Ebers, of Leipsic, and his friend, Ludwig Stern, spent several months at Thebes in quest of rare documents. For a time the two scientists made their dwelling place in one of the tombs of Abd-ed-Gurnah, and associated daily with the Arabs of Luxor. A wealthy citizen of Luxor showed to Ebers the antiquities which he, little by little, had obtained from the fellah on the

other side of the Nile, and at length revealed to him the fact that he was the possessor of a papyrus obtained from the same source.

Upon close inspection of the papyrus Ebers made the startling discovery that it was a document of great value, and in an unusual condition of preservation. He longed to possess the document himself, but had not means to meet the demands of the owner, who was not altogether aware of its full value. However, receiving the financial assistance of Max Gunther, a wealthy Englishman, Ebers purchased the treasured papyrus, and conveyed it to his home in Leipsic, there to study its contents at leisure. It was finally turned over to the library of the University of Leipsic for safe keeping. In order to better preserve the valuable antiquity, it was cut into 29 pieces, and each piece placed under a glass.

According to the statement of the Egyptian possessor, Papyrus Ebers was found in a tomb in the so-called Il Assassit, a part of the Necropolis of Thebes, reposing between the legs of a mummy. Since the finder of the papyrus was dead, it was impossible to refer to the exact tomb which formerly contained the treasure.

When Ebers came into possession of the papyrus it consisted of a single, tightly-rolled piece of the finest yellow-brown papyrus. The width of the document was 30 centimetres, and the length of the written part 20.23 metres. No other papyrus known to Egyptologists is better preserved, and not a single letter of the document is missing.

The text of this perfect ancient record is divided into pages, each of which is numbered. The page numbers are placed over the first line in the middle of each page, and run from 1 to 110. Singularly, the numbers 28 and 29 are missing, although the text continues uninterruptedly. The omission is explained on the ground that the Egyptian considered 110 to be a perfect number, and by this means the writer was enabled to complete his book with the required number of pages.

Each page of the papyrus contains either 21 or 22 lines, with the exception of pages 3 to 21, which are considerably smaller; the pages are 22 centimetres in width. The script in which the papyrus is written is extraordinarily regular, and is partly in black and partly in red ink. This form of writing is known as the hieratic, and is one of the three forms used by the ancient Egyptians. The others are the epistolographic and the hieroglyphic.

The exact date of the writing of the book of which Papyrus Ebers is a copy is not known, but it is believed that it dates back to 4666 B.C. The document itself refers to the eighteenth dynasty, in the sixteenth century B.C., but when the papyrus was unrolled a calendar was discovered containing the following inscription:

"In the ninth year of the King of Upper and Lower Egypt . . . of the everlasting."

Before the last epithet is the framed name of a king whose identity is still in doubt. Dunmichen, a recognized authority on Egyptology, believes that the author of the calendar did not insert the name of the reigning king, but that of Bicheres, of the fourth dynasty, who reigned 1,460 years earlier. Dr. Von Klein is of the opinion that the calendar calls attention to the date of transcription and that the original was written much earlier.

Egyptologists agree that between the 28th and 16th centuries B.C. the practice of medicine was in the hand of witchcraft. During this period the law was so stringent that a person advancing a theory for the treatment of disease other than that established by the priests was put to death. Consequently the work, which bears the marks of the period of witchcraft, if written at all prior to the date named in the calendar, must have been written at least 1,200 years before. This makes it highly probable that the original book was written during the reign of Bicheres, or at least 4666 B.C. At all events, the copy of the papyrus is itself the oldest medical work extant, and contains the historical genesis of medicine.

A large proportion of the diseases known to modern medical science are carefully classified, and their symptoms minutely described by Papyrus Ebers. The prescriptions recommended are in many cases exactly the same as those given at the present time. The work mentions 700 different substances, the greater part of which are taken from the vegetable kingdom. Some metals, and a considerable number of animal extractions were also used. Of the salts only natron (saltpetre), common salt and sea salt, are mentioned. The use of such ingredients as lizard's blood and pig's teeth are in some cases recommended.

The author of the work begins his treatise with an enumeration of the diseases of the abdomen. Universal remedies for headache and stomach troubles, which, as the author says, "the gods prepared for themselves," are also given.

Pages 88 to 101 contain formulas for diseases of the eye, remedies for bites of man or beast, dizziness, baldness, diseases of the liver, burning of the skin, gangrene, exorcisms at the outbreak of a fire, wounds, eruptions of the skin, bruises, weariness of the limbs, perspiration of the feet, sore toes, corns, trembling of the fingers, diseases of the tongue, toothache, headache, influenza, discharges of ears and diseases of women. Cosmetics and medicines to take out wrinkles are also given.

That the methods of diagnosis and treatment would be considered somewhat crude by modern physicians may be gathered from the following rules given for liver complaint:

Rules for rehet—that is, suffering in the pit of the stomach: When thou findest anybody with a hardening of his rehet and when eating he feels a pressure in his bowels, his stomach is swollen and

he feels ill while walking like one suffering from heat in the back, then look at him when he is lying outstretched, and if thou findest his bowels hot, and a hardening in his rehet, this is a liver complaint. Then make thyself a remedy according to the secrets in botanical knowledge from the plant of chestnut and from the scraps of dates. Mix it and put it in water. The patient may drink it on four mornings to purge his body. If after that thou findest both sides of his bowels—namely, the right one and the left one—cool, then say of it, that is bile. Look at him again, and if you find his bowels entirely cold, then say to thyself, his liver is cleansed and purified, he has taken the medicine—the medicine has taken effect.”

From the contents of Papyrus Ebers it is conclusively proved that the early Egyptian physicians were extremely superstitious, and especially the priest-physicians. The work gives various incantations, of formulas, to be chanted at the time of taking the particular prescription. These are in the nature of prayers to the gods that the medicine may work swiftly and well.

The Egyptians were not alone in this practice. It was customary with both the Babylonians and the Jews, and the Greeks were not wholly free from it. A survival of this ancient custom is found in Russia to-day, where the irregular physicians make it a practice to chant while medicine is being prepared and administered.

The discovery of Papyrus Ebers demonstrates that the Egyptians as early as 3,000 or 4,000 years before Christ possessed an astonishing knowledge of a great variety of remedies, and that their learned men could make observation of disease, combine complicated receipts and use them with judgment. According to this early writer, there were three different classes of medical practitioners in Egypt at the date of the manuscript—namely: The real physician, the surgeon and the conjurers. The relative standing of the several classes is not known.

The origin of medicine is certainly to be looked for in the valley of the Nile, and the Papyrus Ebers opens a wide era for the students of the history of medicine and pharmacology. The Egyptian physicians were well advanced in ophthalmology. The collection of Hippocrates, edited 4,000 years later, did not contain more eye diseases, although more clearly and more agreeably described. The number of diseases mentioned in the Papyrus Ebers, as well as the profusion of medicines described, is a source of wonder to modern physicians. The ancient Egyptian physicians must have been experienced diagnosticians, who commanded a knowledge of prophylactic and cosmetic remedies.

The Egyptian oculist was renowned. In the third book of Herodotus is the following passage: “Cyrus sent to Amasis (B.C.

560) and bade him for an oculist—the best in the whole land of Egypt.” Darius also sent thither for a body physician, and in the time of Tiberius and Nero, Egyptian physicians regularly came to Rome, usually to heal skin diseases. Herodotus tells us that the Egyptian physicians were accustomed to practise specialties, and that the country was full of physicians. Some confined their attention to diseases of the head, others to the teeth, stomach and intestines.

Greece, long supposed to be the birthplace of medicine, is now known to have derived its knowledge from the Egyptians. Praxagoras, although from Kos, the town where Hippocrates was born and where the temple of Esculapius was built, lived in Egypt. He was the greatest symptomologist and diagnostician of his age. Hippocrates also went to Egypt for his medical training, and on his return established a school of Greek physicians. Although the founder of the present system of pathology, his right to the title of “Father of Medicine” has been dissipated by the revelations contained in the Papyrus Ebers.

ON THE EXTERNAL AND INTERNAL EMPLOYMENT OF ARGENTAMINE.

BY DR. BERGEL, OF INOWRAZLAW.

I HAVE used Argentamine for over two years both externally and internally in numerous cases, and I have found that it not only almost always is an efficient substitute for the nitrate of silver, but in many cases superior to it. Its field is that of all affections of the mucous membranes in which an astringent, antiseptic and antibacterial action is required. Of course, the stage of the disease and the amount of inflammation present must be taken into account. I have treated inflammations of the conjunctiva, pharynx, stomach and intestines, urethra, bladder, and vagina, with solutions of various strengths; and, without going into details, will report my opinions as to its field and efficacy in comparison with similar preparations, the most suitable strengths in which to use it, etc. In gonorrhea the dosage was a varying one in accordance with the symptoms and stage of the disease. The method of employment was also various, being sometimes ordinary injections, sometimes by irrigation, and sometimes by instillation by means of the Guyon syringe. I started on the basis of a 10 per cent. Argentamine, corresponding to a 1 per cent. silver nitrate solution. For anterior injections I found 1-400 to 1-200 solutions most suitable. In acute cases I

began with the weaker strength; and my results show that it best filled the indications as to efficacy and absence of irritant effect. I gradually increased the strength of the injection, and found that 1-300 was well borne by almost all patients without subjective or objective ill effects. Even 1-200 usually caused no irritation of any account. In some cases when this solution was allowed to act for some time, say ten minutes, there was moderate burning and slight increase in the discharge, phenomena that did not appear with the lesser strengths.

Upon the whole Argentamine seemed superior to the nitrate of silver in that it caused the inflammatory symptoms to disappear more rapidly, and the abundant secretion to diminish, become mucoid, and cease more quickly. As a rule the gonococci disappeared earlier.

The ordinary injections were done three or four times a day, being retained five to ten minutes in the urethra each time. In the more chronic cases, and especially in posterior urethritis, stronger solutions were employed; and when the affection was circumscribed in the latter location, instillations of 1-10 solutions were made with the Guyon syringe. In very many cases this concentration was well borne, and did not irritate. Twenty per cent. instillations, however, were found to be less suitable, and I should not advise their employment. The 10 per cent. concentration is equivalent to a 1 per cent. nitrate of silver solution, and is at least as efficacious, and perhaps more so, than a 2 per cent. solution of the older salt, and causes less irritation and trouble. In general the irrigations caused no irritation at all; and in the isolated cases in which they did, it was very slight in degree.

For urethral irrigation and in gonorrheal cystitis, after the termination of the acute symptoms, solutions of 1-1000 to 1-500 in distilled water were commonly employed. The irrigations were made once a day, and no disturbing by-effects, burning or dysuria, such as are commonly seen with the mildest applications, ever occurred. On the other hand, the therapeutic action of the drug was far superior to that of the older remedies. The results were very excellent, and sometimes brilliant. Combination of ordinary injections with the irrigations sometimes increased their curative effect. Irritation of that sensitive organ, the bladder, rarely occurred; and when it did, in delicate individuals, it was very slight. The method did excellent service in several cases of prostatic disease with chronic vesical catarrh. Irrigation was naturally not employed in fresh cystitis; but in recent infectious urethritis they could be used without any trouble at all. In fact, in these cases improvement or cure was more rapidly effected than with the ordinary injections. Argentamine was employed with good results in a few cases of gonorrheal vaginitis and cervicitis.

In the former, irrigations of Argentamine 1-1000 worked very satisfactorily; in the latter, applications of 5 and 10 per cent. strengths were made with good results and without causing much irritation or any other by-effects.

In pharyngeal diseases, Argentamine was employed where silver nitrate would formerly have been used, being always found its equivalent, and in many cases its superior. This latter seemed evident in a case of syphilitic pharyngitis amongst others. Five to 10 per cent. solutions were used, and were somewhat less unpleasant to the patient than nitrate solutions would have been.

In the ophthalmological field I employed Argentamine in all the suppurative conjunctival diseases in the form of 1 to 2 per cent. instillations three to four times daily, or as a brush application once or twice a day in 5 to 7 per cent. solution. In the great majority of cases I was well pleased with its action. The nitrate of silver does very well in many of these cases; but the new drug possesses the advantage of being usable in relatively weaker concentrations to get the same effect, and the irritative symptoms and subjective difficulties caused by its employment were distinctly less. I administered it in suppurative conjunctival catarrhs, acute follicular catarrhs, acute trachoma, chronic suppurative trachoma, and blenorrhea neonatorum. In almost every case its action was at least equal to that of the lunar caustic; and in the acute follicular catarrhs and trachomas it seemed to influence the swelling and suppuration very favorably and quickly, and without unpleasant irritation. In gonorrheal conjunctivitis of the new-born I had excellent results in some cases; in others I rather felt safer with the usual 2 per cent. nitrate solutions, and changed to them. Corneal affections, and more especially pannus trachomatousus, were no contraindications to the employment of the Argentamine; on the contrary, they seemed to be favorably influenced by the applications.

The internal employment of Argentamine soon demonstrated to my satisfaction that there were no unpleasant by-effects connected with this use of the drug. The first case in which I used it per os was that of a phthisical colleague who suffered from attacks of diarrhea which neither astringents, nor opium, nor combinations of the two, could relieve for any length of time. I administered a 1-2 per cent. watery solution with a little glycerin, giving a tablespoonful every two or three hours. The result was visibly and extremely satisfactory. The six to eight daily diarrheal stools speedily became reduced to two, the feces became more consistent, and the appetite increased. There was no complaint of heartburn, colic, or any other unpleasant effects. I was loth, however, to attribute the brilliant results to the Argentamine alone, supposing that other factors unknown to me had probably been at

work. I soon had chances, however, to convince myself of the therapeutic efficacy of the drug in other cases in adults, and more especially abundant opportunity to study its effects in the gastro-intestinal affections of childhood. I was, of course, slow to abandon the older and well-tried remedies, calomel, bismuth, etc., for a new preparation. But I reflected that the nitrate of silver still maintains a high place in the treatment of gastro-intestinal affections, and in many cases with justice; and my first good result, and more especially the entire absence of any ill effects, encouraged me to overcome my hesitation. The results, whilst not always especially brilliant, were very satisfactory in the majority of instances; the remedy being, of course, employed on certain special indications, which will be mentioned later. A very slight burning was the only ill-effect noticed when the stronger solutions were employed; but this was only temporary, and occurred in but exceptional cases.

I employed Argentamine in entero-colitis after the first severe symptoms passed away, and, of course, in conjunction with a rigorous diet; in intestinal catarrh, in enteritis, in plithisical diarrhoea, and as an injection in catarrh of the large intestine. The dosage and concentration of the drug varied with the age of the patient and the condition of the gastro-intestinal mucous membrane. A teaspoonful to a tablespoonful was administered every two or three hours of a 1-2 to 1 per cent. solution, either plain or with glycerin. Often the 1 per cent. solution could be taken by the tablespoonful without trouble; in isolated instances it caused slight irritation. With the 3-4 per cent. solution this never occurred; and even with the stronger one the symptoms were very slight and transitory. The therapeutic efficacy of the 1-2 to 3-4 per cent. solutions was, however, quite equal to that of relatively more concentrated silver nitrate ones; indeed, in very many cases, they were far superior, both as regards their astringent as well as their antibacterial effect.

In the gastro-intestinal catarrhs of children and adults an Argentamine solution of the above strengths could often be employed with effect when other remedies failed. For purely astringent effects, however, we possess other and more suitable drugs. Regulation of the diet, etc., seems in some cases to make all medication superfluous, or at least only accessory; but the direct influence of the Argentamine could often be plainly seen. The very best results were obtained in enteritis, probably on account of the union of astringent and antiseptic properties in the remedy. In catarrhs of the large intestine repeated irrigations of Argentamine solutions of strengths of 1-500 to 1-1000 were made with favorable effects.—Abstracted from *Therapeutische Monatshefte*, Berlin, July, 1900.

A FEW THOUGHTS ON THE ALKALOIDS.

BY FORDYCE W. BENEDICT, M.D.

METAPHORICALLY speaking, for the last year or more I have been sitting on the fence seeing the procession of Alkaloidal enthusiasts go by. The breezy and refreshing articles of "ye Editors" of the *Clinic* have stirred the latent molecules of my cerebrum, and roused into new energy my reasoning faculties as the thoughts passed on from one cell-station to another in my brain.

You all remember the graphic language of the famous Red-Jacket: "The winds of a hundred winters have whistled through my branches and I am dead at the top." Although none of us can record so many years on the staff of life, do not many of us, as the years go by, find ourselves gravitating into a condition of "innocuous desuetude," and that we are prematurely dead at the top?

I wonder if you who are working so earnestly in this broad field of innovation against old theories and slumbrous ideas, are aware of the great amount of good you are yet to accomplish for the medical profession. Is it not a palpable fact that men who have been educated and schooled to prescribed methods of thought in their medical training, still cling to their early teachings, despite all the advancement science is making? Notwithstanding this onward sweep of thought in the development of new theories in medicine to-day, let us not wholly lose sight of the facts lying at the foundations of our early teachings, which time has proven of so much value, but rather bridge over the years with truths gleaned from experience, making a safe passage for our weary feet as we jog along in the wider fields opening up to us daily.

When I first began the study of the Alkaloids, I thought your articles decidedly sensational, like patent medicine ads. Aconitine, strychnine and digitalin were panaceas for every affection. On closer examination I found these remedies were principally recommended for certain stages in disease, and were but the preliminaries for the initiatory treatment, looking to the adoption of other remedies as the disease advanced. I therefore concluded there was "method in your madness," which led me to a more careful study of your theories.

When we come to consider what a varied application the alkaloids have in the treatment of chronic diseases, there is opened up to us a wider field for treatment for these affections than any other methods present to us. In most chronic diseases we have a condition of imperfect circulation, a stasis of secretion and excretion. In such a state of the system who shall say that medicines admin-

istered in bulk are not wholly inactive, their several constituents antagonizing each other and thus proving inadequate to rouse the system from its dormant state?

We all know that most plants possess more than one medicinal principle, for instance, the plant *Pilocarpis Pinnatifolius Jaborandi*. The leaves are the part used and they possess two principles—pilocarpine and jaborine—each one of them possessing exactly opposite physiological action on the system. The former stimulates the peripheral termination of efferent nerves going to the glandular system, resulting in enormous secretion of saliva from the submaxillary, sublingual and parotid glands—in fact, its influence is actively manifested throughout the whole glandular system, with the probable exception of the secretion of bile from the liver—while jaborine when taken into the system has an effect almost identical with that of atropine, suspending activity in all the glands of the body through paralysis of the different nerves leading to them.

Here, then, is an example of the superiority of the alkaloidal medication, in that you have in this system the isolated principles of the various medicinal medicaments contained in plants, each one possessing its own individual physiological action, and only that. The physician who prescribes jaborandi will get an action varying with the relative proportion of the two alkaloids named in the sample used. The proportion of each may be so nearly alike that the one completely counteracts the other, and *nil* is the result.

In prescribing the alkaloids I do not remember an instance where I have been disappointed in obtaining the results I anticipated, in some degree at least—yes, I do remember one. My disappointment, though, was that it did not kill the patient. It was when I first began the use of them and was not very familiar with the dosage. The subject was a child about three years of age, who was suffering an acute bronchial affection. There were a number of persons present, all talking at the same time while I was putting up the medicine, and this was one reason why I made a mistake.

I thought, here was a subject where the alkaloids were indicated. I took out my little case and counted out 24 granules of emetin for the effect on the mucous membrane, and ten granules of aconitine for the fever, and added 24 teaspoonfuls of water, directing a teaspoonful of this to be given every hour or half-hour as the symptoms indicated.

I did not realize what I had done until I reached my office. Then there was a sudden rush of blood to my face, my hair almost stood on end, and I collapsed into my office chair with a dull and sickening thud.

Finally I began to reason about the matter: The patient was

seven miles away and in all probability would be dead before I could get there. Then an inspired thought came to me, that the emetin would surely cause severe emesis, thereby counteracting the poisonous effect of the aconitine, and I began to have more lenient visions of the possible result.

Next morning I went to see my patient as early as I thought at all proper without exciting suspicion. As I neared the house I began to look for indications pointing to a fatal result of my mistake. I did not see any little mattress hanging on the line, no bedroom window partly raised to let in the air, but everything looked as quiet and peaceful as though no attempt at murder had been enacted. As I entered the house I opened the door very gently, and to my great relief, there sat that little devil on its mother's knee, breathing as quietly as the sleep of the just, and looking up into my eyes with a roguish twinkle as much as to say, "You didn't kill me *this* time, did you, Doctor?" Evidently the emetin had done its work, and I have always felt a sort of reverence for that particular drug ever since.

Shall we say that alkaloidal medication smacks of homeopathy? Not necessarily. I am generous enough to admit, however, that when the theory of Hahnemann was promulgated there came to the medical profession faint glimmerings of a new era in the practice of medicine. Out of the teachings of homeopathy there emerged a more attentive study of pathology, elucidating the phenomena of disease to its simpler manifestations, enunciating more strongly symptomatology, and depending less upon nomenclature as an aid in the treatment of disease.

Does it make any difference what we call ourselves in the schools of medicine? I think not. I believe our aim should be Eclecticism in its simplest signification—"select the best." Out of all the incongruous accumulation of theories the ages have brought to us, from Esculapius down to the present time, elucidate the truths which the wisdom of our fathers has proved to be the best, resting our hopes upon them, and whatever the new in thought brings to us to-day.

Notwithstanding all that we have learned and may yet learn, how many new phases in disease come to baffle our boasted knowledge, and we often feel like looking up into the face of Nature, and resting our weary heads upon the bosom of Mother Earth, and saying: "O, thou that dost hold the secrets of the universe, unlook for me the mysteries of thy subtle potencies, that I may know of a certainty the hidden energies garnered up somewhere in the storehouse of thy creation."

Alas, how sad it is that life is so short in which there is need to learn so much; and at last, so far as this world is concerned, we all come to the ignominious end: "What the cradle rocked the spade buried."—*Alkaloidal Clinic*.

LARGIN.

LARGIN (Silver-Protalbin, Lilienfeld) is reported to be a powerful bactericide and astringent, excelling the other silver-albumin compounds extant in point of antiseptic power, penetrativeness, and non-irritancy. Recommended in gonorrhea in all its forms, and in ophthalmoblennorrhea, externally; also in gastric or intestinal ulcer, internally.

Largin occurs as a gray powder, uniformly containing 11 per cent. of silver. It is soluble in about ten parts of water, and also soluble in glycerin; insoluble in alcohol or ether. Aqueous solutions are best prepared by half filling the prospective containers with hot water, throwing in the Largin, and shaking violently; the bottles are then filled with water.

Largin is a bactericide and astringent, like silver nitrate. It is reported non-irritating and not precipitable by sodium chloride or albumin. Externally, it has thus far been used chiefly in gonorrhea, in 1-4 to 1 1-2 per cent. solutions (according to stage), three times daily; also in ophthalmoblennorrhea (5 per cent. solution freely twice daily; 2 per cent. solution as *prophylactic*); and internally, in gastric and intestinal ulcer. The dose is five to eight grains, in capsules or pills. In bowel ulceration salol coated pills are indicated.

Dr. C. Pezzoli, (1) of the Institute for Pathologic Anatomy in Vienna, treated some sixty cases of gonorrhea with excellent results by means of Largin. He says:

"Solutions were injected, varying in strength from 1-4 to 1 1-2 per cent., according to the stage of the disease. The injections were made thrice daily, the fluid being retained for 5 to 10 minutes in the morning and at noon, and from 15 to 30 minutes in the evening.

"In comparing the therapeutic results of Largin with those obtained with protargol, our next best antigonorrheic, it was found that of the recent acute anterior cases, 77 per cent. were cured without a sign of posterior inflammation; whereas, in the protargol cases only 64 per cent. of the anterior group remained free from posterior complication during the treatment. Thus, the Largin treatment reduced the frequency of the extension of the recent pathologic process to the posterior part of the urethra to 24 per cent., as against 36 per cent. under protargol."

Dr. Kornfeld, (2) of Vienna, employed Largin in out-door cases in much the same manner as had Pezzoli, with this difference, that for the first few days he had the prolonged injections

remain in the urethra but two to five minutes in the morning and at noon, and five to ten minutes in the evening, rising to Pezzoli's periods of duration after that. Of the cases thus treated by the author, twenty-nine were, at the time of writing, sufficiently progressed to be reported. Fourteen of these were of recent acute anterior urethritis. Of these last, the author says:

"The secretion early decreased in consistency and quantity; the cocci soon disappeared from it; the urine became clear, and the filaments, after becoming free from cocci, disappeared likewise. The treatment was of from 16 to 50 days' duration."

Another group, of nine cases, had developed posterior urethritis and cystitis when seen. Of these it is reported:

"In two of them the symptoms had presented an acute form from the start. The acute condition had to be first combated by dietetic measures and morphine. The result was brilliant, the cleaning of the second urinary portion being obtained on the average within six days, without the rise of any complication. All the cases were considered cured."

In a third group, of six cases, embracing *chronic* forms of urethritis, Largin did not prove superior to silver nitrate.

The author concludes thus:

"Largin is a superior antigonorrhoeic, which essentially shortens the acute processes, serves to prevent its extension to the posterior portion, yields very good results in irrigation, and instillation of already extant subacute posterior urethritis; and is certainly not surpassed by any of its congeners."

Largin has been used by Dr. Marczel Falta (3) in acute and subacute conjunctivitis, corneal ulcers, blepharo-conjunctivitis, catarrhal ophthalmia, trachoma, and affections of the lachrymal ducts. The author sums up his opinion at the end of a detailed account in the following language:

"Taken altogether, better results were obtained from the Largin than from any of the other silver albuminates. Its slight irritating effect is referable to its alkalinity; but that is far from being a disadvantage, particularly in cases of conjunctival catarrhs in which there is a profuse discharge. No symptoms of argyrosis were ever observed."

Dr. Hugo Pretori, (4) whose report embraces more than eighty cases, says, in concluding his paper:

"Largin is suitable for replacing silver nitrate in many cases, because it acts just as well and as rapidly, perhaps even more so, while its application is far less dangerous and painful."

Dr. L. Furst (5) reports on the use of *Largin pills*, 8 grn. per dose, internally, to replace the digestively decomposable and hence unreliable silver nitrate. The cases were two of gastric ulcer and one of hemorrhagic erosion of the lesser intestine. For the latter

the pills were keratinized. The medication proved entirely innocuous, and the regeneration of the mucosa appeared to be promoted by it.

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THE TREATMENT OF INSOMNIA.*

DR. OTTO DORNBLUTH, in reviewing the various means and methods of treating insomnia, says that the fear of medicinal hypnotics is unfounded. Used properly and with care, a medicinal hypnotic may save many from becoming neurasthenics, and thus prove of the highest value. While the author is an advocate of hygienic, dietetic and hydrotherapeutic measures, he fully recognizes that there are cases where all such measures fail; and at such times to neglect the use of medicinal hypnotics means to fail in our duty. Not only are the latter more efficacious than many of the lauded hydrotherapeutic measures, such as a prolonged warm bath or a cold pack, but they are also less injurious. The assertion of the hydrotherapeutists that none of their measures prove injurious lacks proof; on the contrary, the author believes that the baths and cold packs have in time a weakening influence and that their after-effects are at least as injurious as those of a reliable medicinal hypnotic.

One of the best medicinal hypnotics with which the author is familiar is Dormiol. This combination of amylene and chloral combines the advantages of both these chemicals without sharing the disadvantages of either. In all his experience with Dormiol, the author has never noticed any unfavorable by- or after-effects. The minimum effective dose the author found to be two teaspoonfuls of the ten per cent. solution, but frequently from three teaspoonfuls to a tablespoonful may be required. Almost without exception, sleep rapidly follows the administration of Dormiol—frequently in ten minutes, and but seldom in half an hour. The sleep generally lasts a number of hours. In melancholia the author has given Dormiol—as an adjunct to the opium treatment—in daily doses of five drams to one ounce (of the 10 per cent. solution) for weeks at a time, and never, he repeats, has he observed any unpleasant effects from its use; there should, therefore, be no hesitation in administering Dormiol for insomnia for as long a period as may seem necessary. Another advantage of Dormiol is its reasonable price, it being the cheapest of all the newer hypnotics.

* *Aerztliche Monatsschrift*, No. 1, 1901.

THE TREATMENT OF LEG ULCERS.

DR. MAX JOSEPH, of the Polyclinic for Cutaneous Diseases in Berlin, gives in the *Dermatologisches Centralblatt* a report on the treatment of ulcers of the leg by the use of Crurin, in which he says:

In the cases in which the patient complains of painful ulcer, and in which a profuse secretion is present, I prescribe at first, for several days, compresses of acetate of alumina, after which the Crurin is employed. In the second group, in which there is a noticeable dryness and a slight tendency to healthy granulations, I use Crurin from the start. Both these groups comprise moderately large ulcers. Where they are of large extent I apply a dressing with Unna's zinc-gelatin, which covers all the surrounding regions, leaving the ulcer itself exposed. Over this Crurin is applied.

Many patients tolerate even the pure Crurin, but others complain of pain after its use, and for this reason I have for some time adopted the custom of employing equal parts of Crurin and starch. In this form it is well borne and does not lose its effect. Very sensitive persons might complain of slight pain, even after the latter application, but it ceases within ten to fifteen minutes, and in many cases this is followed by an agreeable sensation. The powder is dusted on with a camel's hair pencil in the morning and evening, and when the surface is dry, the dressing need only be renewed every second or third day. I will omit the publication of any histories of cases, as they have already been cited by Forchheimer and Steiner, neither can I say anything very definite in regard to the duration of the treatment. The latter must naturally depend upon a number of varying circumstances. I may, however, state that Crurin has already become indispensable to me in the treatment of ulcers of the leg, and that I would be very loth to abandon its use.

Toronto Clinical Society.—The annual meeting of the Toronto Clinical Society was held on May 1st, in one of the committee rooms of St. George's Hall, when the following officers were appointed: President, Dr. J. F. W. Ross; Vice-President, Dr. E. E. King, A.M.S.; Recording Secretary, Dr. G. Elliott; Corresponding Secretary, Dr. A. A. Small; Treasurer, Dr. W. H. Pepler. Dr. Ross moved, seconded by Dr. Anderson, that the Society donate \$25.00 towards the Dr. Conerty defense fund, and that a private subscription be opened with the treasurer.

The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,

EDITOR.

69 BLOOR STREET EAST, TORONTO.

W. A. YOUNG, M.D., L.R.C.P. LOND.

BUSINESS MANAGER,

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Pathology—W. H. PEPLER, M.D., C.M., Trinity University; Pathologist Hospital for Sick Children, Toronto; Demonstrator of Pathology Trinity Medical College; Physician to Out-door Department Toronto General Hospital; Surgeon Canadian Pacific R.R., Toronto; and J. J. MCKENZIE, B.A., M.B., Professor of Pathology and Bacteriology, Toronto University Medical Faculty.

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Laryngology and Rhinology—J. D. THOLBURN, M.D., Toronto, Laryngologist and Rhinologist, Toronto General Hospital.

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Advertisements, to insure insertion in the issue of any month, should be sent not later than the tenth of the preceding month.

VOL. IX.

TORONTO, JUNE, 1901.

NO. 6.

Editorials.

ANTI-EXPECTORATION LAWS

THE war against the habit of expectorating on the streets has been vigorously proclaimed in several cities of the United States; but so far the results have not been an unmingled success for hygiene. Last April a policeman was nearly murdered in St. Paul, Minnesota, when attempting an arrest for the violation of an anti-expectoration ordinance, and other similar events may be expected to

follow if the law is too scrupulously enforced. The ordinance seems revolutionary to the man in the street. Besides, to fine a man for spitting on the sidewalk will end in driving all smokers and chewers indoors. This may be tolerated in winter, but would be intolerable in warm weather. It would add to the cleanliness of the sidewalk, but would be disastrous to the houses and would bear too severely on the housekeepers.

For two generations, at least, book-writers and newspaper writers have inveighed against the unlovely habit of spitting in public, for which male Americans are remarkable. And when one considers the unquestioned reverence and respect paid to women in America, it is passing strange that no effort to suppress a practice so destructive of feminine attire has been seriously essayed. So much for the esthetic side of the question. Better results are obtained from the medical dogma, which teaches that healthy people may acquire tuberculosis from the inhalation of microbe-laden dust, such as is whirled around the streets. Anxious to co-operate with hygienic opinion, city corporations have passed ordinances making it unlawful to expectorate in public, and imposing fine or imprisonment for violating the same.

The Department of Health of the city of New York has displayed considerable energy in arresting and punishing the spitters in public places. Similar legislation has been enforced in Boston and Chicago, but the vile habit of expectorating in public places seems to go on unchecked. In Canada we lag behind our American compeers in this kind of hygiene. No Canadian municipality has yet passed an anti-expectoration ordinance. Our hygienists either do not attach importance to this mode of tubercular infection, or else consider that, like some forms of taxation, the habit of expectoration is uncontrollable.

That the contagion of tuberculosis may be acquired from tubercular sputa is now considered axiomatic. That preliminary being conceded, it will be necessary to organize a campaign against public spitting. It would be idle to suppose that, in obedience to any ordinance, no matter how well conceived, or in fear of penalties, however severe, men will stop spitting on the streets. The habit is so inveterate, and cleanliness in disposing of sputa so uncommon, that it will be necessary to begin the training of the rising generation of boys in the schools.

A boy learns and retains easily everything he believes to be true, and which is explained to him by the teacher in a simple but authoritative and convincing manner. A boy will soon understand the uncleanness of the spitting habit. If the danger of the sputa is also explained to him, danger not only for the spitter himself, but his neighbors and all other persons who breathe in this dangerous dust, the boy will immediately understand the great interest of the question, and after some time will give up the practice of expectorating on the floor or the ground. In this way a generation opposed to an improper method of expectorating in public will grow up. The Minister of Education could address the teachers, who are in general intelligent and good-hearted, and who would be most anxious to introduce a reform, which would benefit themselves as well as the scholars. He could also request the co-operation of the school inspectors, who, in visiting the schools under their charge, should pay attention not only to the science of teaching as exemplified there, but also to everything relating to the physical and moral welfare of the scholars.

A circular might also be issued by the Provincial Board of Health in which the requisite information respecting the dangers of expectorating in public could be given in a simple but authoritative style. Read, commented on, explained by teacher and inspector, and hung up in the school as a notice, such a circular would certainly bear fruit, teaching the boy from his earliest youth ideas of cleanliness and hygiene, which he would not forget in a maturer age.

But if such a programme is to be effective, cuspidors must be placed in the school-rooms and corridors. There will not then be any reason for soiling the floor, the pupils will not be compelled to swallow their expectoration, and they will be taught an object lesson which will bear fruit in after life.

J. J. C.

IODIDE OF POTASSIUM.

As iodide of potassium is one of the ten cardinal drugs with which the practice of medicine may be carried on—we leave to our readers the naming of the other nine—the purity of a sample used is of great importance.

Butler describes pure iodide of potassium as "colorless, trans-

parent or translucent, cubical crystals or a white, granular powder, having a peculiar, faint, iodine-like odor, and a pungent, saline, and afterwards bitter taste."

When impure, the crystals are of a dead white color. The ordinary impurities noted by chemists are: Iodine and iodate of potassium (the actions of which are severe on the digestive tract), chloride of potassium, bromide of potassium, and carbonate of potassium. Without reference to difficult chemical analysis, a plain clinical test of a specimen of iodide of potassium may be made as follows: Add some pure acetic acid to a watery solution of iodide of potassium, and, if the solution does not lose its transparency, the specimen may be considered practically pure, the permissible 4 per cent. of impurity being allowed (Martinet). Martinet also advises that before prescribing this salt for a patient, who may require its use for a considerable time, the practitioner should test the permeability of the patient's kidneys. This precaution is all the more necessary because defective permeability of the kidneys is a capital factor in the pathogenesis of the phenomena of iodism. Iodide of potassium may be detected in the urine or saliva shortly after it has been swallowed.* Analyses of samples of urine, made at intervals of ten minutes, enable a practitioner to estimate if there is any notable delay in the elimination of the salt by the kidneys. Delay is noted in cases of interstitial nephritis. Iodide of potassium may be recognized in a sample of urine as follows: Add to the urine in a test tube a few grains of starch paste, and afterwards a few drops of chlorine water, to set free iodine, and, if iodide of potassium is present, a deep blue precipitate will appear from the formation of the blue iodide of starch. The blue color disappears when the solution is warmed, and reappears when it is cold. Should the employment of this test enable the practitioner to discover a notable delay in his patient's elimination of iodide of potassium, he should proceed cautiously or abstain from prescribing this salt altogether. In certain cases it produces untoward instead of curative effects.

* The following analyses illustrate this test: A. B., who had not taken iodide of potassium for years previous, took a watery solution of five grains of iodide of potassium at 5.40 p.m., May 1st. His urine, voided at 5.55 p.m., gave no iodine reaction. Urine voided at 6.05 p.m., ten minutes later, and twenty-five minutes after ingestion of salt, gave a characteristic iodine reaction. The saliva and nasal mucus examined at 7.50 p.m. gave the same reaction. May 2nd, 8 a.m., his urine gave the iodine reaction, 14 hours, 20 minutes after ingestion; nasal mucus a trace.

which are known as iodism. Thus edema of the glottis has been noted in a patient who had taken one gramme (fifteen grains) of iodide of potassium, the prior employment of methylene blue having revealed a notable delay in urinary elimination.

The iodide of starch test is also useful in discovering whether a patient is really taking iodide of potassium, which has been prescribed, but which he is suspected of not taking. Failure to discover the salt in his urine or saliva would explain a seeming want of success in curing a syphilitic lesion by the use of a specific remedy.

J. J. C.

REPORT OF A SPECIAL COMMISSION ON THE PLAGUE IN SAN FRANCISCO.

THE report of the special Commission appointed by the United States Government to investigate the existence of plague in San Francisco, appears in the *Journal of the American Medical Association*, April 27th, 1901. The report confirms, what had been previously asserted as true in the medical and secular press, though denied by the Governor of the State of California and his subsequent appointees, that plague has existed and does still exist in the Chinese quarter of San Francisco. The report states that from February 5th to February 16th, thirteen dead Chinese were inspected, and of these six were undoubtedly infected with plague. A seventh may have been a case of plague, which went unrecognized. The report further states: "The study of cases during life and the inspection of bodies after death prove that it is often difficult and, under certain circumstances impossible, to make a diagnosis of plague, even *post mortem*, without bacteriological examination. In outspoken bubonic cases, there will be but little, if any, difficulty in diagnosis, either during life or after death, provided the observer has had sufficient experience with the disease; but, in the absence of primary buboes, the unskilled observer will miss practically every case, and even the practitioner who has had much experience with plague may be deceived."

The commissioners declare further that, once it is established that plague exists among the Asiatics of a town, every Asiatic, who has fever, should be suspected of having plague and be so treated, until the disease is proved other than plague, and every dead body should be treated as a plague cadaver until bacterio-

logical examination has proved the absence of the bacillus pestis.

Details are given of the autopsies made on eight cadavers, six of which gave unmistakable evidences of plague.

Experimental inoculations were also made in guinea-pigs. The usual procedure was to inoculate at least two animals from each human case; one with portions of the spleen and another with portions of the lymph glands. The commissioners deem it important to state that characteristic lesions were obtained from inoculated material derived from every case in which bacilli were found in cover-slips, including Case 7, in which very small numbers of bacilli were detected in the spleen. Descriptions are given of the types of infection noticed in the animals, the local lesion, the conditions observed in the spleen, liver and lungs, and the subserous hemorrhages.

The report concludes with the observation that the bacteriological examination of the six cases referred to, demonstrated the presence of the bacillus pestis in each case. The report is signed by Simon Flexner, M.D., F. G. Novy, M.D., and Lewellys F. Barker, M.D.

Since the receipt of this report, the Governor of the State of California, and the local authorities of San Francisco, have bowed to the inevitable, and have graciously consented to acknowledge that plague does really exist in San Francisco. Inspectors are engaged in cleaning the Chinese quarter. The work will consist in a thorough inspection of all dwellings, the sweeping of streets, and the closing up of underground habitations.

Now that they have got their hands in, the State Governor and the municipality of San Francisco should give the Six Companies to understand that American laws and hygiene must be supreme, and that Chinamen must conform to the rules of sanitation. Chinatown may not then be so picturesque, but it will cease to be a menace to the health and the pockets of the people of San Francisco, and a source of peril to the cities of North America.

J. J. C.

THE ONTARIO MEDICAL ASSOCIATION.

THE meeting of the Ontario Medical Association on the 19th and 20th inst. takes place in the Normal School Buildings in this city. The various committees have been working hard recently in order

to make the 1901 meeting of our Association a big success, and we sincerely trust that this will be the case, and that the Toronto members will turn out in earnest, and by lending their presence at the various sessions, and paying their registration fees (a most important item on the programme) assist in making our annual convention what it should be.

The discussion will include :

1. "Gastric Ulcer," introduced by Dr. J.W. Edgar, of Hamilton. This will be taken part in by several members from both the medical and surgical aspects of the subject.

2. "Empyema," introduced by Dr. Ferguson, of London, and Dr. Turnbull, of Goderich.

3. "Extra-uterine Pregnancy," introduced by Dr. Garratt, of Kingston.

Dr. Elliott, of Gravenhurst, will read a paper upon "Tuberculosis in Sanatoria," and Dr. Osborne, of Hamilton, upon "Field Service in the South African War." Dr. Charles P. Noble, of Philadelphia, Pa., will be one of the invited guests, and will read a paper upon "Complications and Degenerations of Fibroid Tumors of the Uterus, with Reference to the Treatment of those Growths." Dr. Prevost of Ottawa, will read a paper upon "Intra Spinal-Cocainization."

EDITORIAL NOTES.

An Hospital for Goderich.—At a meeting of the Daughters of the Empire, held at Goderich on May 6th, it was decided to erect a marine and general hospital on a suitable site. A provisional board was appointed. Several generous contributions were made, and free sites have already been offered.

Dr. Bryce's Charges of Misconduct on the Part of Physicians.—We direct the attention of our readers to the report of the second quarterly meeting of the Provincial Board of Health, which appears at page 385. The charges made by Dr. Bryce are serious, and deserve to be considered carefully by the Medical Council of Ontario.

The Chicago Polyclinic Special Course.—The following Ontario practitioners took advantage of the recent Special Course that was offered by the Chicago Polyclinic, mention of which was made in our March issue: Dr. A. J. Gould, Waterford; Dr. M. Ferguson, Ethel;

Dr. D. McEachern, Milverton; Dr. W. E. Olmstead, Caledonia; Dr. A. G. Elliott, Lucknow.

A New Medicine Concern.—The incorporation of the United States Ferrol Company to manufacture and sell medicine, and with an authorized capital of \$1,000,000, is announced. The provisional directors are Benjamin Madill, banker; George W. Monk, Dr. John L. Davison, Dr. Alex. McPhedran, and Dr. George A. Bingham, all of Toronto.

New Ideas in Medicine.—Most people who take an interest in the terminology of medicine, know that bacterium is derived from *βακτηριον*, a little stick, and was formerly restricted to a genus of fungi, characterized by short, linear, inflexible, rod-like forms, without tendency to unite into chains or filaments. Its usual meaning is a micro-organism. In the *Toronto Journal of Osteopathy*, December, 1900, we observe the following: "The English for 'bacteria,' says Dr. Still, is 'buzzard.'" Try again, Osteopathy! A buzzard is not remarkable for sense.

Causes of Death in Small-pox.—The causes of death in small-pox (*La Presse Medicale*, March 3rd, 1900, p. 135) as verified by autopsy in the Lyons (France) Isolation Hospital, 1899-1900, are as follows: Cases, 792; deaths, 142; 17.9 per cent. Causes of deaths: Primary hemorrhage, 43; secondary hemorrhage, without other complication, 13; broncho-pneumonia, 37; pulmonary edema with pulmonary congestion, 17; pneumonia, 6; advanced tuberculosis, 5; pericarditis, 3; myocarditis, 2; acute nephritis, 2; abortion without other complications, 4; stillborn children, without lesions, 3; intestinal invaginations, 1; no autopsy, 6; total, 142.

The Death of Dr. T. H. Little, of Toronto.—One of the saddest deaths among the members of our profession in Canada for years past was that of Dr. T. H. Little, of this city, a few weeks ago, from confluent small-pox, contracted while in attendance upon a patient afflicted (in the early stages) with this dread disease. Dr. Little died in the Small-pox Hospital some days after being removed there by the Medical Health authorities, his case having from the first proved exceedingly severe, and in spite of the best medical treatment, resulted fatally. There is not one reader of this journal but sympathizes most deeply with the widow and sorrowing family of the deceased gentleman.

Cobourg Insane Asylum.—Hon. Mr. Stratton, Provincial Secretary, and Inspector Christie visited Cobourg lately re the opening of the Victoria Asylum for Women there in September. Dr. McNicholl, of Cobourg, has been appointed Superintendent, and Dr. Harriet Cockburn, of Toronto, has been appointed Assistant Physician. Dr. McNicholl will retire from his private practice and spend his time until September at other asylums, familiarizing himself with his new duties. The appointment of Dr. Cockburn is a new departure in Canada, and is made in recognition of the claims of lady physicians, especially in an institution for women. Dr. Cockburn has had experience, having been connected with the Dakota State Asylum for the Insane.

The Residual Urine of Prostatic Cases—From the attentive observation of a considerable number of cases of prostatic enlargement in elderly men, A. G. Miller (*Scottish Medical and Surgical Journal*, August, 1900) concludes there is no good reason why a prostatic patient should empty only the greater part instead of the whole of his bladder. Urinary residue, he thinks, is due to neglect on the part of a patient to quite empty the bladder, and accumulation of urine is the result of this bad habit. He thinks elderly men after urinating in the ordinary way, should wait a minute or so and try to urinate again, irrespective of the quantity of residual urine. Two consequences follow this precaution: The urine does not sojourn in the bladder, and the contractile power of the bladder becomes greater.

The Mississippi Valley Medical Association.—It is announced that the dates of the next meeting of the Mississippi Valley Medical Association have been changed from the 10th, 11th and 12th of September to the 12th, 13th and 14th of September. This change has been made necessary because the dates first selected conflicted with another large Association meeting at the same place. The meeting is to be held at the Hotel Victory, Put-in-Bay Island, Lake Erie, O., and the low rate of one cent a mile for the round trip will be in effect for the meeting. Tickets will be on sale as late as September 12th, good returning without extension until September 15th. By depositing tickets with the Joint Agent at Cleveland and paying 50 cents the date can be extended until October 8th. This gives members an opportunity of visiting the Pan-American Exposition at Buffalo, to which very low rates by rail and water will be in effect from Cleveland. Full information as to rates can

be obtained by addressing the Secretary, Dr. Henry E. Tuley, No. 111 West Kentucky Street, Louisville, Ky. Members of the profession are cordially invited to attend this meeting. Those desiring to read papers should notify the Secretary at an early date.

Treatment of Carbon Monoxide Poisoning with Oxygen.—

In a recent report to the Academy of Sciences, Paris, Dr. Grehant shows that curative results have been obtained in cases of carbon monoxide poisoning, by causing the animals experimented with to inhale oxygen. Thus in the case of an animal poisoned with carbon monoxide, and which was in a dying condition, the inhalation of a 90 per cent. oxygen gas caused, after an interval of one hour, 100 cubic centimetres of its arterial blood to contain 18.8 per cent. of oxygen, and only 1.1 per cent. of carbon monoxide. In a similar form of poisoning, if the affected animal is made to breathe pure air, after an interval of three hours, 100 cubic centimetres of its arterial blood will contain 16.6 per cent. of oxygen, and 4.5 of carbon monoxide; that is to say, four times more carbon monoxide than after one hour's inhalation of oxygen. The elimination of carbon monoxide from the blood is, therefore, considerably facilitated by employing inhalation of oxygen. This treatment should be tried in man in cases of poisoning by illuminating gas.

Opposition to the Medical Council.—A deputation of physicians, headed by Dr. Sangster, of Port Perry, himself a militant member of the Ontario Medical Council, waited on Hon. E. J. Davis, as the only Minister of the Crown on the premises, at the Parliament Buildings on the 3rd ultimo. They desired to have a test case submitted to the Courts as to the legality of the annual tax of \$2 imposed on the profession by the Medical Council in return for the privileges they enjoy as a close corporation. Some of the doctors of the Province have been recalcitrant in the payment of this tax. A few weeks ago, it is stated, the Secretary, Dr. Pyne, sent out notices to about 700 physicians that if they did not pay the tax their names would be struck off the list of licensed practitioners. About one hundred paid up on this threat, but the other six hundred have failed to do so, and these the deputation claimed to represent. In addition to Dr. Sangster, Dr. Hillary, Bowmanville, Dr. Thorn, Woodbridge, and Drs. Bingham and Gray, 'Peterboro', were present. The argument of the

deputation was that they received no benefit in return for the fee they paid for membership in the Ontario College of Physicians and Surgeons, of which the Council is the governing body. The balance of arguments largely consisted of the contentions which Dr. Sangster has annually voiced in the meetings of the Medical Council of Ontario. It was held that the offices and examination rooms were too large and luxurious, that the present medical building should be sold, and that a few cheap rooms should be rented. Dr. Sangster also gave utterance to a familiar note when he stated the present Council was run by the college representatives and homeopaths. A general protest against the methods of the present Council was entered. Hon. E. J. Davis promised to lay the matter before the Attorney-General. It is probable that there will be a stay in the matter until the Council meets this month.

Treatment in Small-pox.—Professor Courmont and his assistants at the Lyons Small-pox Hospital attach great importance to treatment in combating the complications of small-pox. Hygienic attentions, isolation of cases of broncho-pneumonia, and suppression of dry-sweeping in the wards will prevent a considerable number of pulmonary disorders. They organized a regular service of baths, which worked from morning to night. Twelve bathing tubs were used, some of which were heated by gas, others by steam. Each patient got a lukewarm bath of from fifteen to twenty minutes' duration every day. Thirty grammes of bichloride and an equal quantity of tartaric acid were put in the bath. A spray of bichloride, 1-500, was used for the face, several times a day, a wad of cotton being placed over the eyes as a protection. Clean bed sheets were constantly used. No odor was observable in the wards. Even if the bichloride had not been used, the simple daily use of the bath would have obliged the attendants to keep the patients clean. Additional results of bathing were: Diuresis, sleep, and relief from suffering. In but one of 792 cases was slight pyralism observed, with some general disorder of slight duration. In the ocular disorders of small-pox, the following formula was employed, and proved very useful:

R Methylene blue	0.20 grm (gr. iij.)
Aq. destill.	100 grm. (ʒiiss.)

Every patient having a vesicle or pustule on his conjunctiva, or even a simple conjunctivitis, had drops of this solution introduced

into his eyes five or six times a day. Forty-five cases of eye-disease were treated without the loss of an eye. Prior to the introduction of this treatment, four patients had lost their eyesight through small-pox, although the bichloride and biniodide of mercury had been employed (in subconjunctival injections). Red light (Finsen) was tried in four cases and pronounced practically useless. Serum therapy was considered useful but not indispensable.

A New View of the Prevention of Tuberculosis.—A rather novel view (*Progres Medical*, p. 232, April 6th, 1901) on the prevention of tuberculosis was recently presented before the Academy of Medicine, Paris, by Drs. Robin and Binet. These gentlemen attach great importance to demineralisation of the human organism, and augmentation of the exchanges of the respiratory gases, as signs of a predisposition to tuberculosis. This great augmentation exists, moreover, not only at the beginning of the disease, when it may be an important sign in the differential diagnosis, but at all periods and in every form of consumption. Looking over several tables, we see that the respiratory chemistry of tubercular subjects is of a special type, having relations to respiratory capacity, percentages of gases exchanged in expired air, ventilation, volumes of carbon dioxide exhaled, oxygen consumed or fixed by the tissues in a given time, and in relation to the weight of the person experimented with. In conditions of the body which are antagonistic to consumption, such as arthritism, the respiratory exchanges are on an average less than the normal rate. This is an important fact, giving the key to that antagonism between gout and tuberculosis which all clinicians, after Pidoux, have raised to the dignity of a pathological law. The same observation may be made of scrofula, a condition of the bodily tissues, in which only local forms of tuberculosis germinate. Putting aside contagion, the condition of the tissues of the body or the soil counts for much in tuberculosis. This is almost the datum of Hippocrates, who wrote, "Phthisis is a consumption." The prevention of tuberculosis does not consist altogether in public and private measures adopted to prevent the diffusion of Koch's bacillus. If discovered betimes, people predisposed to tuberculosis must be immediately submitted to a medicinal and hygienic treatment capable of modifying in them the functional

and nutritive disorder, which is the necessary condition for the development of the bacillus. In the opinion of the essayists, people cannot be prevented from having pulmonary consumption unless physicians can diagnose a predisposition to it betimes, and afterwards render the bodies of those exposed to it refractory to the germs of the disease.

PERSONALS

DR. J. O. ORR left for England last month, and will remain away for three months.

DR. C. M. STEWART has been appointed Medical Superintendent of the General Protestant Hospital, Ottawa.

DR. and MRS. Cattermole have removed to 194 Bloor Street west. They have leased their house on Cecil Street.

THE new consumptive sanitarium is to be built upon the raised plateau at the top of Bathurst Street, and just north of Davenport Road.

WE regret that, quite unintentionally, proper credit was not given to *The American X-Ray Journal* for the article of Dr. Kasabian's, which appeared on page 321 of our May issue.

DR. JAMES McLEOD, son of Mr. Charles McLeod of 510 Jarvis Street, has taken his degree of F.R.C.S. in London, also L.R.C.P.S., and won a scholarship in King Hospital of some value, and received an appointment in that hospital, which will keep him in London for the next eighteen months.

DR. E. H. STAFFORD returned to the city a few weeks ago from his trip, to the land of ice and snow, with the sealing fleet. He gives a most interesting account of his journey, and we hope to give the readers of this journal the benefit of an article from Dr. Stafford's pen ere long, entitled "The Ship's Old Medicine Chest."

DR. LIONEL KING, well known in lacrosse and hockey circles all over Canada, and now a prominent physician of Carr City, Michigan, was in the city last month on the return trip from his old home in Peterboro'. Lionel says he is out of hockey, lacrosse and baseball for good, and will devote the remainder of his life to healing rather than dealing wounds.

The Physician's Library.

BOOK REVIEWS.

A Manual of Practical Hygiene for Students, Physicians and Medical Officers.
By CHARLES HARRINGTON, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Illustrated with twelve plates and one hundred and five engravings. Philadelphia and New York: Lea Brothers & Co. 1901.

The author says in the preface that his object in preparing this work has been "to provide a students' text-book which should cover the most important topics included in the wide domain of hygiene and be useful in the laboratory and as a reference book for practitioners and health officers." A review of his opinions on the causation of typhoid fever will therefore be interesting, both to medical student and practitioner. The evidence establishing that typhoid fever is a water-borne disease is well put, examples being given from America, viz., the Plymouth (Pa.) epidemic in 1885 and the epidemic at Ashland, Wisconsin, in 1893-94. The latter instance is suggestive to Torontonians, Ashland being situated on an arm of Lake Superior, Chequamegon Bay, and the fever which prevailed there being considered as due to sewage pollution of the town water supply. "An action at law was brought by the widow of one of the victims. In evidence it was shown that he lived continuously in Ashland and drank no water other than that supplied by the water company; that previous to his seizure the disease had prevailed in the city, and that the discharge from the antecedent cases had passed into the waters of the bay by way of the city sewers. The court found for the plaintiff in the sum of \$5,000."

The author quotes with approval a paraphrase of a familiar quotation, "Show me a city's statistics of typhoid fever and I will tell you the character of its water supply." He also exhibits a table taken from John W. Hill's work, "The Purification of Public Water Supplies. New York. 1898." Knowing what every citizen of Toronto knows of the sources of our water supply, we are not surprised to learn that the death-rate of Toronto for typhoid fever for 100,000 population is, for the year 1896, 28.5. For purposes of comparison we append the following death-rate from typhoid fever per 100,000 population: London, Eng., 14; Brooklyn, N.Y., 15; Buffalo, N.Y., 20; Philadelphia, Pa., 34.

The influence of a common municipal water supply, instead of that derived from wells, in lowering the death-rate from typhoid fever is described. At the same time statistics are given to prove that if a public water supply is "not protected from avoidable pollution (town sewage), the typhoid rate in that town keeps high." In reference to typhoid fever conveyed by milk, it is shown that the Eberth bacilli can retain their vitality in milk and even in sour milk. Yet there is this difference, that in buttermilk there was always a diminution in the number of the pathogenic organisms, and "this was the more marked and sometimes very rapid with increasing temperatures."

The bugaboo of typhoid fever from sewer air is shown to be foundationless. Its transmission by dust is denied on the authority of Germano and Buchner, though the bacilli may be introduced into the system through contact with the fingers, food (oysters), or eating utensils.

The Pettenkofer "soil theory" in the causation of typhoid fever is discredited. Pollution of food supplies by flies after visiting the sinks is given as a cause of typhoid, particularly in camps. Preventive inoculation is mentioned approvingly. For the benefit of some sanitarians who pin their faith in water testing to the bacteriological method the following sentence is quoted in full (*vide* last paragraph, page 398): "As a matter of fact, then, from what has gone before, it may be said that neither chemical nor bacteriological analysis is infallible. Each has its uses and each may be helped by the other. The value of either lies in the skill displayed in interpreting the results, and this requires quite as much knowledge as the making of the examination itself."

Every physician, old and young, should read this book—the young to get accurate notions about the origin of infectious diseases, and the old to inaugurate a mental house-cleaning of old-time refuse. J. J. C.

International Clinics, a quarterly of clinical lectures and especially prepared articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and other topics of interest to students and practitioners, by leading members of the medical profession throughout the world. Edited by HENRY W. CATTELL, M.D., Philadelphia, with the collaboration of Jno. B. Murphy, M.D., Chicago; Alex. D. Blackader, M.D., Montreal; H. C. Wood, M.D., Philadelphia; T. M. Rotch, M.D., Boston; E. Landolt, M.D., Paris; Thos. G. Morton, M.D., and Chas. H. Reed, M.D., Philadelphia; J. W. Ballantyne, M.D., Edinburgh; and John Harold, M.D., London, with regular correspondents in Montreal, London, Paris, Leipsic and Vienna. Vol. I., eleventh series, 1901. Philadelphia: J. B. Lippincott Co. Sole Canadian Agent: Charles Roberts, 1524 Ontario Street, Montreal.

The magnificent clinical lectures as given in the tenth series of "International Clinics," published last year, would be hard to beat, but after perusing carefully Volume I. of the eleventh series we are inclined to think that the editor has again broken the record and given the profession in this book material which, if paid for according to value, would come to a great deal more than the paltry price asked for "Clinics." How, on the other hand, the publishers can do it at the price is a marvel, as the work is not gotten out in a sloppy or cheap manner, but is printed on good paper and the type is a model of distinctness. It will be seen that with such a staff of contributors as the names mentioned above, it would be difficult for any editor to associate himself with brighter minds, or to accept for his book material which should prove more acceptable than that found in Volume I. of this series. Comparisons are always odious, so that we shall not dwell upon any one lecture. They are all good and the book worth possessing.

Introduction to the Differential Diagnosis of the Separate Forms of Gall-stone Disease. Based upon his own experience gained in 433 Laparotomies for Gall-stones. By PROFESSOR HANS KEHR, Halberstadt. Authorised translation by William Wotkins Seymour, A.B. (Yale), M.D. (Harvard). With an introduction by Prof. Kehr. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1901.

The information conveyed in the title of this work concerning the remarkably extensive experience of the author in the field of gall-stone surgery at once attracts one's attention and demands a most careful consideration of the conclusions he has formed. A critical examination of the volume reveals the fact that the author has, by keen observation, deduced many points of importance concerning the pathology of the conditions under consideration. The clinical symptoms presenting themselves under varied circumstances have been connected with the pathological conditions found, and thus diagnosis has been made much more accurate in the hands of Professor Kehr. One cannot fail to be convinced of the value of these observations on noting the logical presentation of the subject, and we have no hesitation in recommending this small

volume to practitioners as a valuable guide to the diagnosis of gall-stone disease. Whilst the volume deals mainly with the pathology of the condition, we find the author suggests the lines of treatment by cholelithiasis also. He favors early operation in the vast majority of cases, and blames the physician for many of the unfortunate conditions which are so frequently found in individuals who have suffered recurrent attacks without operative interference. The translation of Professor Kehr's work has been very faithfully accomplished by Dr. Seymour.

A. P.

Encyclopedia Medica. Under the general editorship of CHALMERS WATSON, M.B., M.R.C.P.E. Vol VI., Joints to Liver. Pp. 562. Edinburgh: William Green & Sons. 1900.

This volume is devoted largely to Labor, five articles being devoted to its physiology and six to its pathology, in all nearly two hundred pages. The whole subject appears to be very carefully dealt with. So are also Diseases of the Larynx in eight articles written by Hunt, St. Clair Thomson, P. McBride, Sir Felix Senior, P. Watson Williams, Logan, Turner and John Thomson. The physiology of the Kidney is very well considered in an article by T. H. Milroy, and the surgical affections by E. Hurry Fenwick. To Diseases and Injuries of the Knee-Joint are allotted two articles by Alexis Thomson and A. E. Barker. They are well written and safe guides. G. Lovell Gulland's article on Leucoeythemia is a very interesting and suggestive one, the best probably that has recently appeared. He describes the two varieties under the names "Myelemia" and "Lymphemia," and adopts the views of the Neumann school that in both the leucocytic excess is drawn from the bone marrow, and that lymphocytes do not, as the Ehrlich school believe, arise from the lymphatic glands. He discusses also Löwitt's theory as to the bacterial origin of the disease, but only to reject it in the form in which Löwitt puts it forward. The volume closes with a very condensed but excellent series of articles on Diseases of the Liver by H. D. Rolleston. As is the case with preceding volumes the book is a credit to the publishers.

A. M.P.

The Treatment of Fractures. By CHAS. L. SCUDDER, M.D., Assistant in Clinical and Operative Surgery, Harvard Medical School. Second edition, revised and enlarged. Octavo, 433 pages, with nearly 600 original illustrations. Philadelphia: W. B. Saunders & Co. Canadian Agents: J. A. Carveth & Co., Toronto. 1901. \$4.50 net.

That the profession was waiting for a thoroughly up-to-date work on the important subject of fractures has been demonstrated by the exhaustion of a large first edition of Dr. Scudder's work within a few months of its publication. The present edition is enriched by many X-ray illustrations of a practical and helpful character. No other work has yet appeared giving in such minute and lucid detail the methods now used by experts in the application of plaster-of-Paris *splints*, having all the advantages and none of the dangers of the old plaster *bandages*. In no other work is the art of exact diagnosis and of accurate reduction better taught, and, so far as the knowledge of the reviewer extends, in no other work, in English, has a better account of the ambulatory treatment of fractures been given. The reproduction of illustrations, the presswork and the binding are alike creditable to the publishers. Books of this character reflect credit upon all concerned in their production, and extend the name and the fame of American surgery.

N. A. P.

Secret Nostrums and Systems of Medicine. A book of formulas. Compiled by CHARLES W. OLESON, M.D. (Harvard). Eighth edition. Chicago: Oleson & Co., publishers, 35 Clark Street. 1901.

Here is a book that every medical man should have in his possession, not that it is scientific or that it will ever further him particularly in his work in curing the ills that flesh is heir to, but for the reason that the volume is full of most interesting information. It throws a great deal of light upon the composition of the hundreds of patent remedies so widely advertised in the daily

press, and which the manufacturers claim will cure almost anything and everything in sight. If the dear public who so love to have their legs (excuse us, we should say limbs) pulled and their pockets denuded of all they contain in order to procure something which will put hair on a bald head in ten days, cure consumption even in its last stages, remove cancerous growths without the knife (when all doctors, they say, have failed to make even an impression), only knew what was being retailed to them, and for which they were paying from 500 to 1,000 per cent. profit, we feel sure that it would not be so long ere legitimate pharmacy would, as it should, take the place entirely of what is nothing short of deception. Doctor, buy this book. It is meaty reading. W. A. Y.

Chronic Urethritis of Gonococcal Origin. By J. DE KEERSMAECKER, Chief of Service, Diseases of the Urinary Organs at the Centraalkliniek of Antwerp, and J. VEERHOOGEN, Agrégé at the University of Brussels; Chief of Service, Diseases of the Urinary Organs at the Polyclinique Libre. Translated and edited, with notes, by LUDWIG WEISS, M.D., Attending Physician to the Genito-Urinary and Skin Service, German Poliklinik; Dermatologist to the Hebrew Orphan Asylum, New York, etc. New York: William Wood & Co. 1901.

Dr. Weiss has translated the work of Drs. De Keersmaecker and Veerhoogen, two Belgian surgeons who have done much to popularize the work of Oberlander. He has added some original observations on Palpation and Expression of Cowper's Gland, the Prostate and the Seminal Glands, with details on the treatment of Chronic Gonorrhea, Urethral Asepsis and the Question of Gonorrhea and Marriage. The work will be found useful by the general practitioner who wishes to obtain accurate views as to the instruments required in making urethroscopic studies, and also the proper methods of employing the instruments. J. A. C.

Merck's 1901 Manual of the Materia Medica. A ready reference pocket book for the practising physician and surgeon, containing names and chief synonyms, physical form and appearance, solubilities, percentage strength and physiological effects, therapeutic uses, modes of administration and applications, regular and maximum dosage, incompatibles, antidotes, precautionary requirements, etc., etc., of the chemicals and drugs usual in modern medical practice. Compiled from the most recent authoritative sources and published by Merck & Co., New York and Chicago.

To the physician who is desirous of keeping up his knowledge of therapeutics and becoming conversant with the most recent remedies, and their name is well-nigh legion, "Merck's 1901 Manual of the Materia Medica" will be found exceedingly valuable. It contains a wonderful amount of information condensed into very small space, and is so handy as to be easily carried around in the pocket for constant reference.

Laryngeal Phthisis; or, Consumption of the Throat. By RICHARD LAKE, F.R.C.S., Surgeon Laryngologist, North London Hospital for Consumption, etc.; Surgeon, Metropolitan Ear and Throat Hospital. With 36 illustrations. Philadelphia: P. Blakiston's Son & Co. 1901.

This is not a treatise on laryngeal phthisis but rather a record of over 300 cases seen in the wards of the North London Hospital for Consumption. The most prevalent age was found to be from twenty to forty. Males were attacked three times as often as females. Occupation was not found to predispose in any way. A series of examinations were made of cover glass preparations from the noses of fifty tubercular patients, yet in but one case were tubercle bacilli found. It must not be concluded from this that tubercle bacilli are not inhaled; the probability is that the bacilli inhaled are washed into the nasopharynx and enter the system through its mucosa or that of the oropharynx. As far as treatment is concerned, the author deals with local treatment alone. Altogether, this is a very readable and trustworthy little book. J. M. M.

Our Baby: For Mothers and Nurses. By MRS. LANGTON HEWER, diplômée Obstetrical Society, London; late Hospital Ward Sister; author of "Antiseptics, a Hand-Book for Nurses." Seventh edition, revised. Bristol: Jno. Wright & Co.; London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. 1901.

This manual has already run through six editions and another now appears, showing that it has had appreciative readers and been found of value to those having the charge of infants. How frequently do physicians come across mothers who astound even their medical attendant through their gross ignorance of the most common rules as to the management of the baby—its feeding, dress, etc. Mrs. Hewer's little book will be found in such cases to fill the bill, and can be furnished for very little money. It will save the doctor frequently a lot of trouble, and cut short the time he has sometimes to spend in his daily visits actually teaching mothers how to manage, feed and clothe their babies.

Her Mountain Lover. By HAMLIN GARLAND. Toronto: The Copp, Clark Co., Limited. 1901.

A day off, the woods, a silver stream, a fishing rod and "Her Mountain Lover" for company spinning his yarn—of early life in Kansas, a devil-me-care cowboy, then a miner among the great hills of Colorado, later a stranger in old London, trying to float his mine. The whole story is amusing yet charming, because of the quaintness of its telling, and the accompanying description of life up in the "high country" this unspoiled child of nature loved so well. The story is told in the vernacular we call slang, but expressive slang that dovetails into the life and surroundings of Jim Mattason of Wagon Wheel Gap, Colorado, with an aptness and freshness all its own. Ask Jim to go with you on your next day's outing and he will reply characteristically, "I'll be on hand, pard, like a sore thumb."

W. A. Y.

In the Palace of the King. By F. MARION CRAWFORD. Toronto: The Copp, Clark Co., Limited, publishers.

A love-story of old Madrid, a tale of the love of Don John of Austria, younger brother of King Philip II. of Spain for the beautiful Dolores de Mendoza. The story is full of interest. The jealousy of King Philip, who was disliked and feared by his subjects, for Don John whom they worshipped, is well depicted by the author. The beautiful love-story of Dolores and Don John, at times delightful, sad, or thrilling, the gentle and womanly character of the blind girl Inez and the strategy of the King's jester form the centres of interest around which, amid pomp, vanity, deceit and hardihood, the court life of the Grandees of Spain revolve in this absorbing story.

W. A. Y.

Toronto Medical Society.—The following are the officers elected on May 16th for the ensuing year: President, Dr. F. N. G. Starr (accl.); 1st Vice-President, Dr. S. M. Hay; 2nd Vice-President, Dr. G. Silverthorn (accl.); Cor. Sec., Dr. G. D. Porter (accl.); Rec. Sec., Dr. A. G. A. Fletcher (accl.); Treasurer, Dr. G. Carveth (accl.); Council, Drs. A. Primrose, W. J. Wilson and T. S. Webster.

DR. P. E. DOOLITTLE, of Sherbourne and Shuter Streets, has settled down in practice again after an absence in the West of two or three years. The Doctor, with his usual ingenuity and mechanical turn of mind, is flying round on a gasoline bicycle, and, judging from the speed with which he can outstrip the average doctor's horse, he makes good time.

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